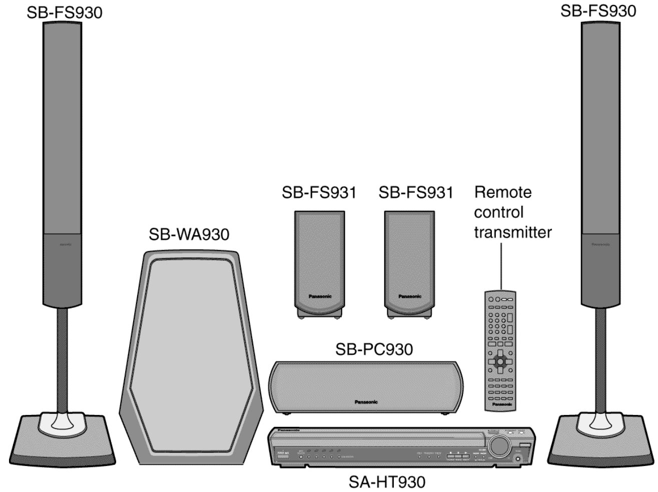
ORDER NO. MD0501009C1
A6

Service Manual

DVD Home Theater Sound System

SA-HT930P
SA-HT930PC
SA-HT930PX

Color
(S).......................Silver Type



Specifications

lGeneral	
Power Source:	
P/PC areas:	AC 120V, 60Hz
PX area:	AC 110V/127V/220-230V/240V, 50/60Hz
Power consumption:	25 W
Dimensions (W×H×D):	430×68×423 mm (16-15/16”×2-11/16”×16-10/16”)
Mass:	4 kg (8.9lbs)
lAmplifier section	
RMS Output Power: Dolby Digital Mode	
lTotal RMS Dolby Digital mode Power:	1000 W
At 1kHz and total harmonic of 10%	
lFront:	170 W/ Channel (6Ω)
lCenter:	260 W/ Channel (4Ω)
lSurround:	70 W/ Channel (4Ω)
At 100Hz and total harmonic of 10%	
lActive subwoofers:	260 W/ Channel (4Ω)
FTC Output Power: Dolby Digital Mode:	
lTotal FTC Dolby Digital mode Power:	580 W
At 120Hz-20kHz and total harmonic of 1%	
lFront:	100 W/ Channel (6Ω)
lCenter:	140 W/ Channel (4Ω)
lSurround:	45 W/ Channel (4Ω)
At 45Hz-120Hz and total harmonic of 1%	
lSubwoofer:	150 W/ Channel (4Ω)
lFM tuner section	
Frequency Range:	87.9-107.9MHz (200kHz in step) 87.5-108.0MHz (100kHz in step)
Sensitivity:	2.5µV (IHF)
S/N 26dB	2.2µV
Antenna Terminal:	75Ω (non balance)
lAM tuner section	
Frequency Range:	520-1710kHz (10kHz in step)
AM Sensitivity S/N 20dB at 1000kHz:	560µV/m
lPhone Jack:	
Terminal:	Stereo 3.5 mm (1/8”) jack
lDisc section	
Discs played [8 cm (3”) or 12 cm (5”)]:	

Panasonic

© 2005 Panasonic AVC Networks Singapore Pte. Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

(1) DVD-RAM (DVD-VR compatible, JPEG formatted discs)
(2) DVD-Audio
(3) DVD-Video
(4) DVD-R, DVD-RW (DVD-Video compatible)
+R, +RW (Video compatible)
(5) CD-Audio (CD-DA)
(6) Video CD
(7) SVCD (Conforming to IEC62107)
(8) CD-R/CD-RW (CD-DA, Video-CD, SVCD, MP3, WMA, JPEG formatted discs)
(9) MP3/WMA
lCompatible compression rate:
MP3: between 32 kbps and 320 kbps
WMA: between 48 kbps and 320 kbps
lMaximum number of recognizable audio and picture contents and groups:
4000 audio and picture contents and 400 groups
(10) JPEG
lExif Ver 2.1 JPEG Baseline files
lPicture resolution: between 320 x 240 and 6144 x 4096 pixels (sub sampling is 4:2:2 or 4:2:0)
lMaximum number of recognizable audio and picture contents and groups:
4000 audio and picture contents and 400 groups
(11) HighMAT Level 2 (Audio and Image)

Pick up:
Source of light beam: Semiconductor Laser
Wavelength:
lCD: 785nm
lDVD: 662nm
Laser power:
P area: CLASS IIa/ CLASS I
PC/ PX areas: CLASS 2/ CLASS 3a

Audio output (DISC):
Number of channels: 5.1 ch (FL, FR, C, SL, SR, SW)

Audio performance:
Frequency response:
DVD (linear audio): 4 Hz-22 kHz (48 kHz sampling)
4 Hz-44 kHz (96 kHz sampling)
DVD-Audio: 4 Hz-88 kHz (192 kHz sampling)
CD-Audio: 4 Hz-20 kHz
S/N ratio:
CD-Audio: 95 dB
Dynamic range:
DVD (linear audio): 95 dB
CD-Audio: 93 dB
Total harmonic distortion:
CD-Audio: 0.005 %

lVideo section

Video system:
Signal system: NTSC
Composite video output:
Output level: 1 Vp-p (75 Ω)
Terminal: Pin jack (1 system)
S-video output:
Y output level: 1 Vp-p (75 Ω)
C output level: NTSC; 0.286 Vp-p (75 Ω)
Terminal S terminal (1 system)
Component video output (480P/480I):
Y output level: 1 Vp-p (75 Ω)
P_B output level: 0.7 Vp-p (75 Ω)
P_R output level: 0.7 Vp-p (75 Ω)
Terminal: Pin jack (Y: green, P_B : blue, P_R : red) (1 system)

Power consumption in standby mode:
P/PC areas: approx 0.5W
PX area: approx 0.9W

Note:

1. Specifications are subject to change without notice.
   Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Solder:

This model uses lead free solder (PbF).

system	**SC-HT930**
Main unit	**SA-HT930**
Front speakers	SB-FS930
Center speaker	SB-PC930
Surround speakers	SB-FS931
Active subwoofer	SB-WA930

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/ or other countries.
WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

Designed for Windows Media™

HIGH MAT AUDIO·IMAGE

HighMAT and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/ or other countries.

■ Built-in decoders

You can play discs with these symbols.

DOLBY DIGITAL

DIGITAL dts SURROUND

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

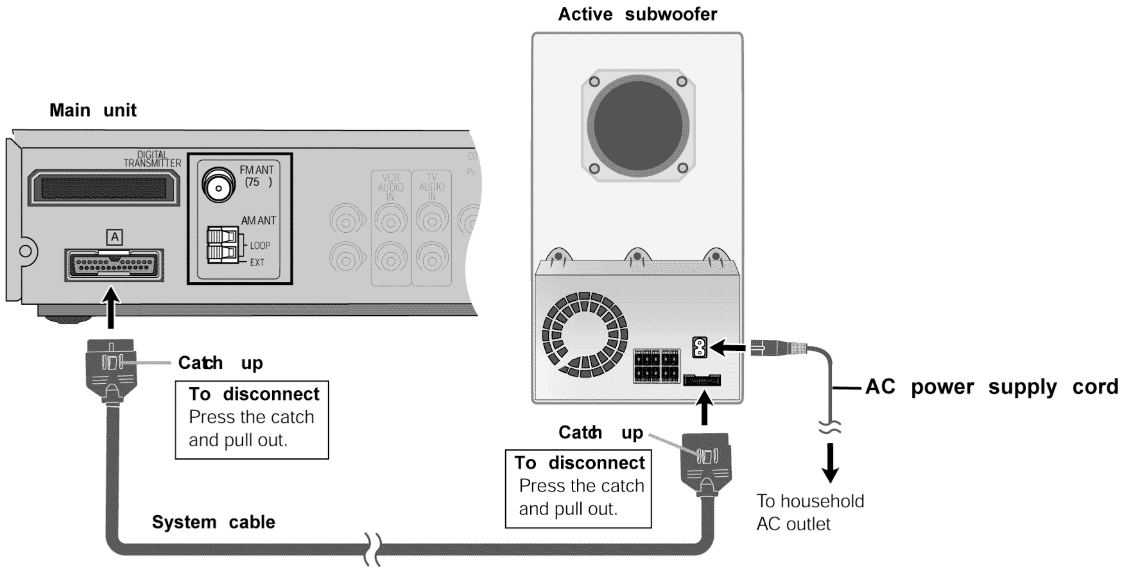
Page

1 Use of Active Subwoofer 4
  1.1. Checking Player when Active Subwoofer is not used 4
2 Safety Precautions 5
  2.1. GENERAL GUIDELINES 5
3 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices 5
4 Before Repair and Adjustment (Using Active Subwoofer) 6
  4.1. Caution for fuse replacement 6
5 Protection Circuitry 6
6 Precaution of Laser Diode 7
7 About Lead Free Solder (PbF) 7
8 General Description 8
  8.1. Operating instructions 8
  8.2. Disc information 9
  8.3. Using of Receiver Unit (SH-FX50) - Optional 11
  8.4. About HighMAT 12
9 Accessories 17
10 Handling Precautions for Optical Pickup Unit 18
  10.1. Cautions to Be Taken in Handling the Optical Pickup Unit 18
  10.2. Grounding for electrostatic breakdown prevention 18
11 Disassembly and Main Component Replacement Procedures 20
  11.1. Disassembling the Top Cabinet 21
  11.2. Disassembling the Front Panel 21
  11.3. Disassembling the Tray Assembly 21
  11.4. Disassembling the Mechanism Base Block 22
  11.5. Disassembling the Main P.C.B 22
  11.6. Removal of the Tray Base Guide (L) and Tray Base Guide (R) 23
  11.7. Removal of the Rotary Tray 23
  11.8. Removal of the Open Lock Gear 23
  11.9. Removal of the Close Lock Gear 23
  11.10. Removal of the Tray Motor P.C.B. and Sensor P.C.B. 24
  11.11. Removal of the CD Traverse Unit 24
  11.12. Removal of the Pulley Gear 24
  11.13. Removal of the Loading Motor P.C.B. 25
  11.14. Removal of the Drive Gear (A) & (B) 25
  11.15. Disassembling the Fixed Plate, Magnet and Clamper 25
  11.16. Removal of the Cam Gear & Support Piece 26
  11.17. Removal of the Slide Plate (L) & (R) and Change Lever 26
  11.18. Assembly of Tray Base 27
12 Service Position 28
  12.1. Checking, Repair Tray Motor P.C.B and Sensor P.C.B 28
  12.2. Checking, Repair Main P.C.B 28
  12.3. Checking, Repair DVD Module P.C.B 28
13 DVD-Optical Pick-up Self-Diagnosis and Replacement Procedure 29
  13.1. Optical Pickup Breakdown Diagnosis 29
  13.2. Service Mode Table 1 30
  13.3. DVD Self Diagnostic Function-Error Code 30
  13.4. Service mode table 2 32
  13.5. Sales demonstration lock function 34
  13.6. Handling After Completing Repairs 34
14 Self-Diagnosis Function 35
  14.1. Automatic Displayed Error Codes 35
  14.2. Memorized Error Codes 35
15 Service Precautions 36
  15.1. Recovery after the DVD player is repaired 36
  15.2. Firmware version-up of the DVD player 36
16 Adjustment Procedure 37
  16.1. Service Tools and Equipment 37
  16.2. Important points in adjustment 37
  16.3. Storing and handling of test discs 37
  16.4. Optical adjustment 38
17 Abbreviations 39
18 Voltage Chart 41
  18.1. DVD Module P.C.B. 41
  18.2. Main P.C.B. 42
  18.3. FL P.C.B. 43
  18.4. Loading Motor P.C.B., Tray Motor P.C.B., Sensor P.C.B. 43
19 Wave Form Chart 44
20 Schematic Diagram Notes 45
21 Block Diagram 47
22 Schematic Diagram 53
23 Printed Circuit Board Diagram 63
24 Wiring Connection Diagram 67
25 Illustration of IC 痴, Transistors and Diodes 69
26 Terminal Function of ICs 70
  26.1. IC2018 (MN101C49GHB): Operation CPU 70
27 Parts Location and Replacement Parts List 71
  27.1. Loading Mechanism, Traverse Unit & Cabinet 72
  27.2. Component Parts List 76
  27.3. Packing Materials & Accessories Parts List 86
  27.4. Packaging 86

1 Use of Active Subwoofer

1.1. Checking Player when Active Subwoofer is not used

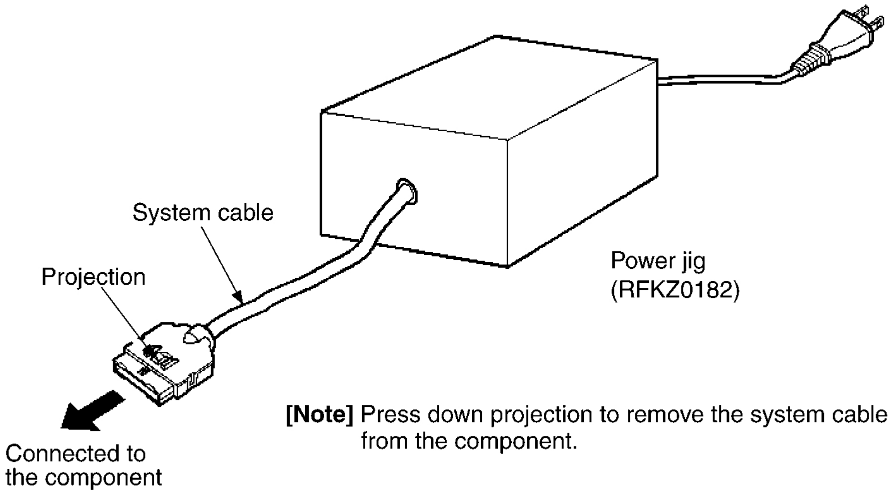
1. This unit uses the active subwoofer to supply the power of the component, and the active subwoofer should be connected to the component to check operational conditions of the component.


Active subwoofer
Main unit
DIGITAL TRANSMITTER
FM ANT (75)
AM ANT
LOOP
EXT
A
VCR AUDIO IN
TV AUDIO IN
Catch up
AC power supply cord
Catch up
System cable
To household AC outlet

To disconnect
Press the catch and pull out.

To disconnect
Press the catch and pull out.

2. If the active subwoofer is not available due to repair of the unit, use the following equipment.


System cable
Projection
Power jig
(RFKZ0182)
Connected to the component

[Note] Press down projection to remove the system cable from the component.

Jig product number: RFKZ0182 (110V, 127V, 220V, 230V-240V for overseas domestic use)

2 Safety Precautions

2.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

2.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to thechassis, the reading should be between 1MΩ and 5.2MΩ.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

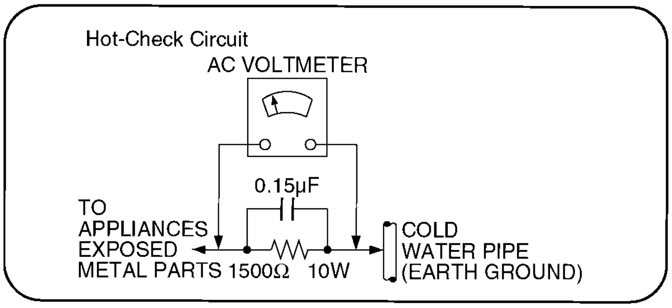

Hot-Check Circuit
AC VOLTMETER
0.15µF
TO APPLIANCES EXPOSED METAL PARTS
1500Ω 10W
COLD WATER PIPE (EARTH GROUND)

Figure 1

2.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1 .)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15µF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1 .
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outsideof the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

3 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistorsand semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available dischargingESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparableconductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD)sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are imporant for safety.
These parts are marked by ⚠ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

4 Before Repair and Adjustment (Using Active Subwoofer)

Disconnect AC power, discharge Power Supply Capacitors C547~C549 through a 10 Ω, 10 W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at AC 120 V, 60 Hz in NO SIGNAL mode should be ~ 750 mA.

4.1. Caution for fuse replacement

(For English)
CAUTION:

Replace with the same type fuse:
(Manufacturer: LITTELFUSE, INC, Type: F1, 4A, 125V)

(For Canadian French)
ATTENTION:

Utiliser un fusible de rechange de même type:
(Manufacturer: LITTELFUSE, INC, Type: F1, 4A, 125V)

5 Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

6 Precaution of Laser Diode

CAUTION:

This unit utilizes a class 1 laser.

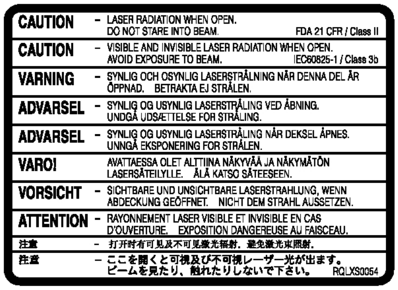
Invisible laser radiation is emitted from the optical pickup lens.

Wavelength: 662nm(DVD)/785nm(VCD/CD).

Maximum output radiation power from pickup: 100μW/VDE

When the unit is turned on:

1. Do not look directly into the pick up lens.
2. Do not use optical instruments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pickup lens.
4. Do not disassemble the optical pick up unit.
5. If the optical pick up is replaced, use the manufacturer’s specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION – LASER RADIATION WHEN OPEN.
DO NOT STARE INTO BEAM. FDA 21 CFR / Class II

CAUTION – VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM. IEC60825-1 / Class 3b

VARNING – SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR
ÖPPNAD. BETRAKTA EJ STRÅLEN.

ADVARSEL – SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSÆTTELSE FOR STRÅLING.

ADVARSEL – SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES.
UNNGÅ EKSPONERING FOR STRÅLEN.

VARO! AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN
LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

VORSICHT – SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN
ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

ATTENTION – RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS
D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.

注意 – 打开时有可见及不可见激光辐射．避免激光束照射．

注意 – ここを開くと可視及び不可視レーザー光が出ます。
ビームを見たり、触れたりしないで下さい。 RQLXS0054

(Inside of product)

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

7 About Lead Free Solder (PbF)

Distinction of PbF PCB: PCBs (manufactured) using lead free solder will have a Pbf stamp on the PCB.

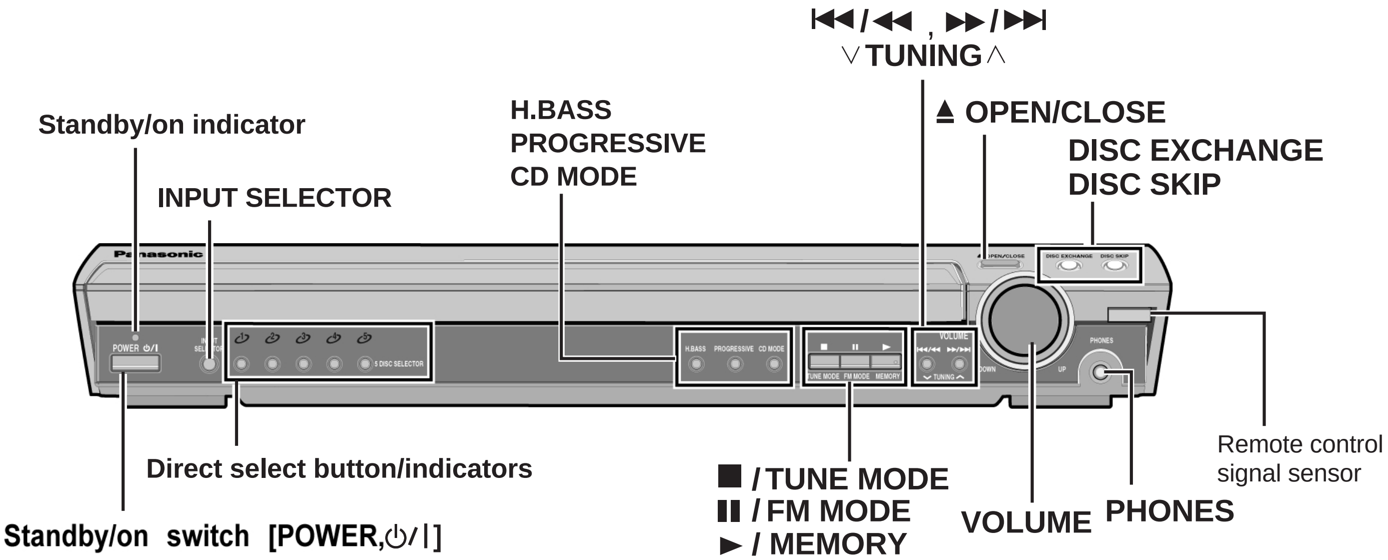
Caution:

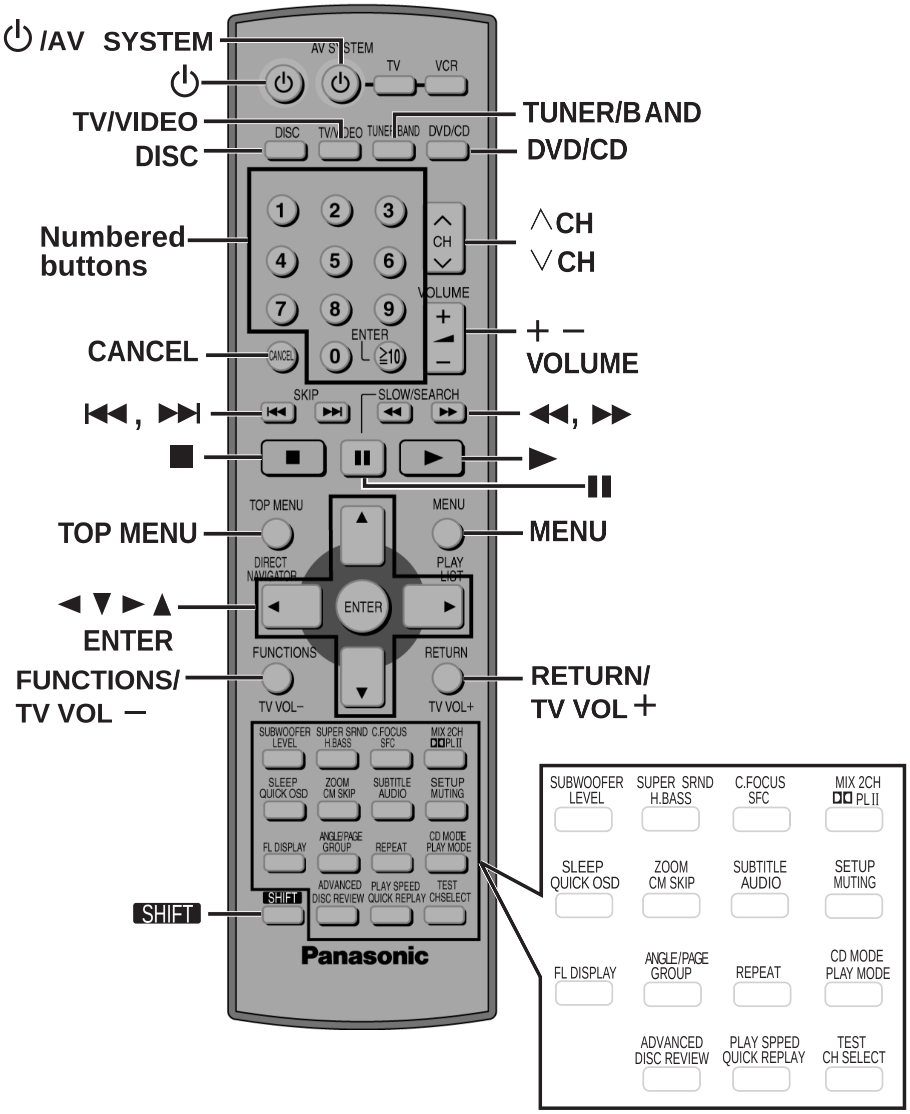
- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control,please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/ 600°C).

When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

8 General Description

8.1. Operating instructions


⏮/◀◀ , ▶▶/⏭
∨TUNING∧
Standby/on indicator
INPUT SELECTOR
H.BASS
PROGRESSIVE
CD MODE
≜ OPEN/CLOSE
DISC EXCHANGE
DISC SKIP
Direct select button/indicators
Standby/on switch [POWER,⏻/I]
■ / TUNE MODE
❚❚ / FM MODE
► / MEMORY
VOLUME
PHONES
Remote control signal sensor


⏻/AV SYSTEM
⏻
TV/VIDEO
DISC
TUNER/BAND
DVD/CD
Numbered buttons
∧CH
∨CH
+ −
VOLUME
CANCEL
⏮, ⏭
◀◀, ▶▶
■
►
❚❚
TOP MENU
MENU
◄ ▼ ► ▲
ENTER
FUNCTIONS/
TV VOL −
RETURN/
TV VOL +
SHIFT
SUBWOOFER LEVEL
SUPER SRND H.BASS
C.FOCUS SFC
MIX 2CH ▯▯PL II
SLEEP QUICK OSD
ZOOM CM SKIP
SUBTITLE AUDIO
SETUP MUTING
FL DISPLAY
ANGLE/PAGE GROUP
REPEAT
CD MODE PLAY MODE
ADVANCED DISC REVIEW
PLAY SPPED QUICK REPLAY
TEST CH SELECT

8.2. Disc information

■ Discs that can be played

Disc	Logo	Indication in these operating instructions	Remarks
DVD-RAM	DVD RAM RAM4.7	RAM	Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard Version 1.0. ●To play JPEG files, select “Play as Data Disc” in Other Menu.
DVD-Audio	DVD AUDIO	DVD-A	—
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select “Play as DVD-Video” in Other Menu.
DVD-Video	DVD VIDEO DVD VIDEO	DVD-V	—
DVD-R (DVD-Video)/ DVD-RW (DVD-Video)	DVD R R4.7 DVD RW		Discs recorded and finalized※ on DVD video recorders or DVD video cameras.
+R (Video) / +RW (Video)	—		Discs recorded and finalized※ on DVD video recorders or DVD video cameras.
Video CD	COMPACT disc DIGITAL VIDEO	VCD	—
SVCD	COMPACT disc SUPER VIDEO		Conforming to IEC62107
CD	COMPACT disc DIGITAL AUDIO COMPACT disc DIGITAL AUDIO TEXT	CD	This unit is compatible with HDCD, but does not support the Peak Extend function (a function which expands the dynamic range of high level signals). HDCD-encoded CD’s sound better because they are encoded with 20 bits, as compared with 16 bits for all other CD’s.
CD-R CD-RW	—	WMA MP3 JPEG CD VCD	●This unit can play CD-R/RW (audio recording disc) recorded with the formats on the left. Close the sessions or finalize※ the disc after recording. ●**HighMAT discs** WMA, MP3 or JPEG files only. To play without using the HighMAT function, select “Play as Data Disc” in Other Menu. ● WMA This unit does not support Multiple Bit Rate (MBR: a file that contains the same content encoded at several different bit rates).

※A process that allows play on compatible equipment.

●It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, SACD, DivX Video Discs and Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM, and “Chaoji VCD” available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

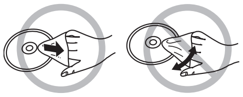
■ To prevent damage

Do not:
–load more than one disc per tray.
–touch the drawer or the carousel while they are in motion.
–rotate the carousel by hand.
–close the drawer by hand.

■ To clean discs

DVD-Audio, DVD-Video, Video CD, SVCD and CD

Wipe with a damp cloth and then wipe dry.



■ Audio format of DVD’s

This unit automatically recognizes and decodes discs with these symbols.

DOLBY DIGITAL

DIGITAL dts SURROUND

■ Disc handling precautions

- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
  - Discs with exposed adhesive from removed stickers or labels (rented discs, etc).
  - Discs that are badly warped or cracked.
  - Irregularly shaped discs, such as heart shapes.

Tips for making WMA/MP3 and JPEG discs (For CD-R, CD-RW)

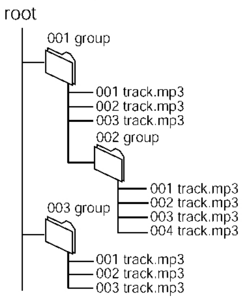
- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- When there are more than 8 groups, the eighth group onwards will be displayed on one vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

Naming folders and files (Files are treated as content and folders are treated as groups on this unit.)

At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

Files must have the extension:
".WMA" or ".wma"
".MP3" or ".mp3"
".JPG", ".jpg", ".JPEG" or ".jpeg"

e.g. MP3



WMA

- You cannot play WMA files that are copy protected.
- This unit does not support Multiple Bit Rate (MBR).

MP3

This unit does not support ID3 tags.
Compatible sampling rates: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz.

JPEG

- To view JPEG files on this unit:
  - Take them on a digital camera that meets the DCF Standard (Design rule for Camera File system) Version 1.0. Some digital cameras have functions that are not supported by the DCF Standard Version 1.0 like automatic picture rotation which may render a picture un-viewable.
  - Do not alter the files in any way or save them under a different name.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (e.g. TIFF) or play pictures with attached audio.

8.3. Using of Receiver Unit (SH-FX50) - Optional

- This model can be equipped with the digital transmitter and receiver to enjoy surround sound wirelessly..

8.3.1. Below is tips on using the digital receiver

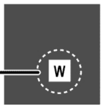
Power on/off

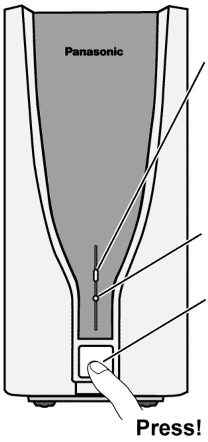
Refer also to the operating instructions for your home theater system.

1 **Power on your home theater system.**

2 **Power on the receiver.**

“ [W] ” lights up in the display on
your home theater system.
(**“**[W] **” is flashing** page 1,
Troubleshooting guide)





Wireless link indicator
This indicator lights when the signal strength is adequate for proper operation.

Power indicator
This indicator lights when the unit is turned on.

Power on/off button

3 **Start play on your home theater system.**

8.3.2. Tips of using digital transmitter

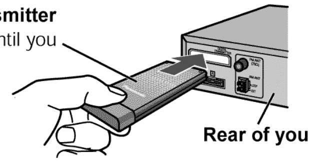
Connecting and positioning

Preparation

Turn off all equipment before connection and read the appropriate operating instructions.
Connect the AC power supply cord after all other connections are complete.

Connecting the digital transmitter

Insert the digital transmitter into the slot.

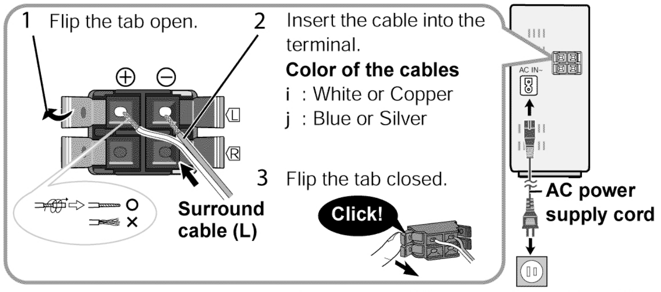

Digital transmitter
Insert fully until you hear a click.
Rear of your home theater system

Do not insert or remove while your home theater system is on.

Connecting the surround speaker cables to the digital receiver

1 **If the surround speaker cables have already been connected**
Disconnect the surround speaker cables from the subwoofer.

2 **Connect the surround speaker cables to the receiver.**



1 Flip the tab open.

2 Insert the cable into the terminal.

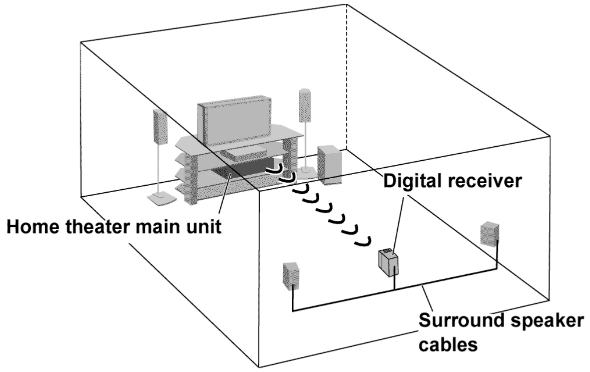
Color of the cables
i : White or Copper
j : Blue or Silver

3 Flip the tab closed.

To household AC outlet (AC 120 V, 60 Hz)

Wireless setup diagram

e.g.



Place the digital receiver within approximately 10 m (33 feet) from the home theater main unit.

[Note[

Do not use more than two surround speakers when using this wireless system.
Do not use this wireless system near a microwave oven.
Do not place the transmitter or receiver in a metal cabinet or bookshelf.

8.4. About HighMAT

8.4.1. What's HighMAT?

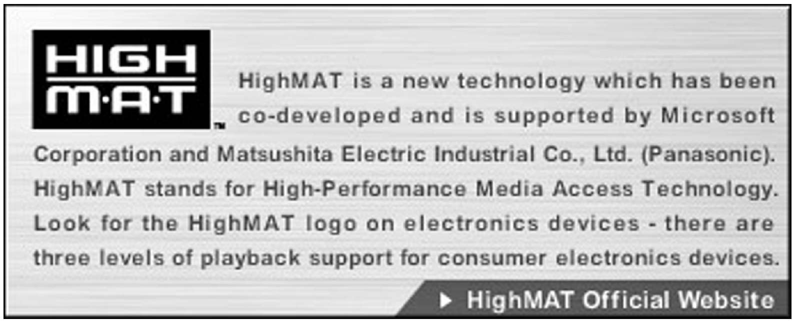
Consumers worldwide are using PCs to create their own collections of music, photos and even video by burning them onto CDs. But how these collections can be experienced across different devices can be confusing to navigate, time consuming to accessfor a DVD player, and be incomplete in terms of music information available to the customer.

HighMAT offers a solution to this growing consumer problem. HighMAT dramatically improves the digital media experience on consumer electronic devices by delivering a simple, standardized approach that allows consumers who have created personal collectionsof digital music, photography and video on their PC to:

>> Create a HighMAT CD or DVD which can be easily played back on consumer electronics devices such as CD and DVD players, and car stereos.

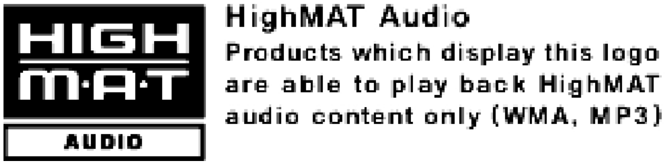
>> Move digital media files (using recordable media such as CD-R and CD-RW) between the PC and various playback devices such as CD and DVD players.

A new standard for creating personal media on consumer electronic devices, HighMAT enable easier and more seamless interoperability between Windows PCs and devices designed for your living room, or the car.

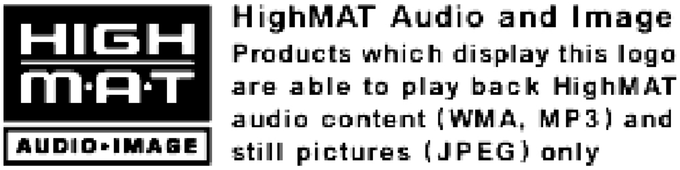


HighMAT is a new technology which has been co-developed and is supported by Microsoft Corporation and Matsushita Electric Industrial Co., Ltd. (Panasonic). HighMAT stands for High-Performance Media Access Technology. Look for the HighMAT logo on electronics devices - there are three levels of playback support for consumer electronics devices.

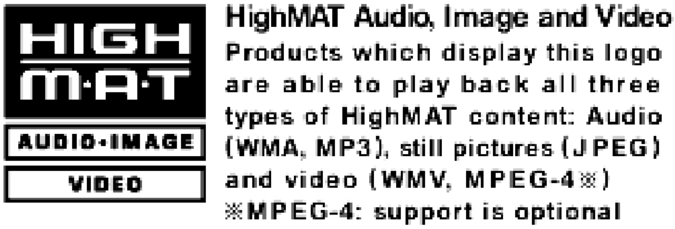
▶ HighMAT Official Website



HighMAT Audio
Products which display this logo are able to play back HighMAT audio content only (WMA, MP3)



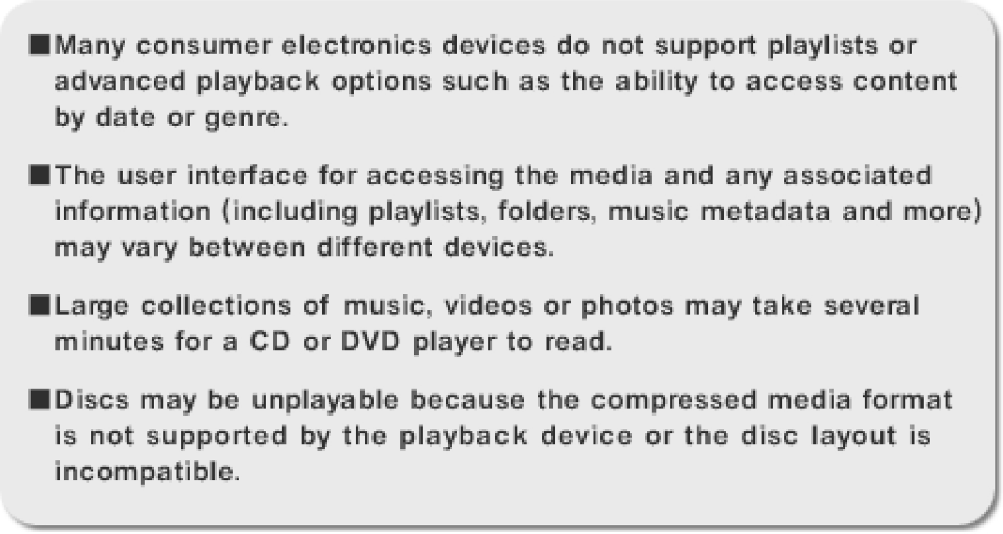
HighMAT Audio and Image
Products which display this logo are able to play back HighMAT audio content (WMA, MP3) and still pictures (JPEG) only



HighMAT Audio, Image and Video
Products which display this logo are able to play back all three types of HighMAT content: Audio (WMA, MP3), still pictures (JPEG) and video (WMV, MPEG-4※)
※MPEG-4: support is optional

8.4.2. Why take advantage of HighMAT?

A Problem Defined:Today, when consumers create their own digital audio, video or photo collections on CD-R or other physical formats, there are numerous, inconsistent ways that devices read the data. For the consumer, the playback experience canbe confusing:

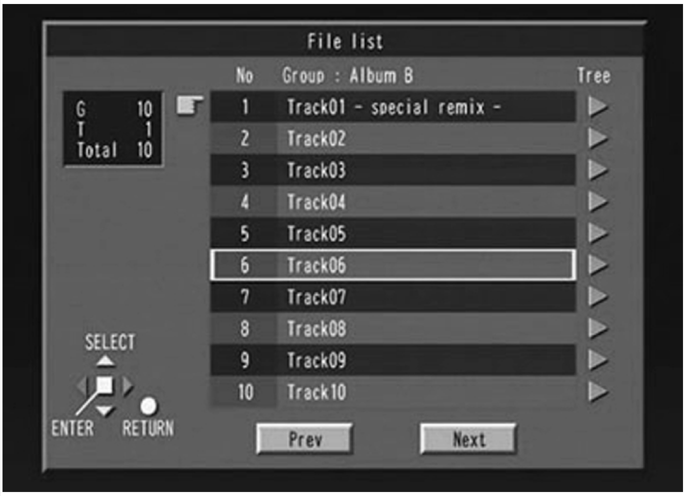
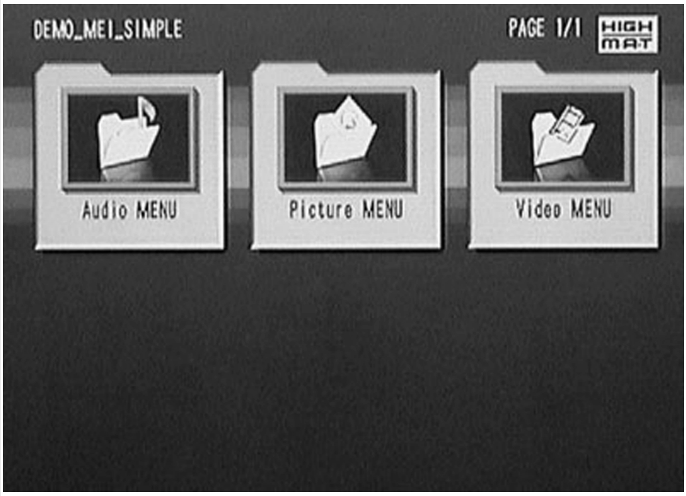


- ■Many consumer electronics devices do not support playlists or advanced playback options such as the ability to access content by date or genre.
- ■The user interface for accessing the media and any associated information (including playlists, folders, music metadata and more) may vary between different devices.
- ■Large collections of music, videos or photos may take several minutes for a CD or DVD player to read.
- ■Discs may be unplayable because the compressed media format is not supported by the playback device or the disc layout is incompatible.

A Solution Created: HighMAT delivers a better digital media access experience by creating a standard approach for PCs to structure digital media on various physical formats and for playback devices to read the data.

8.4.3. Benefits of HighMAT?

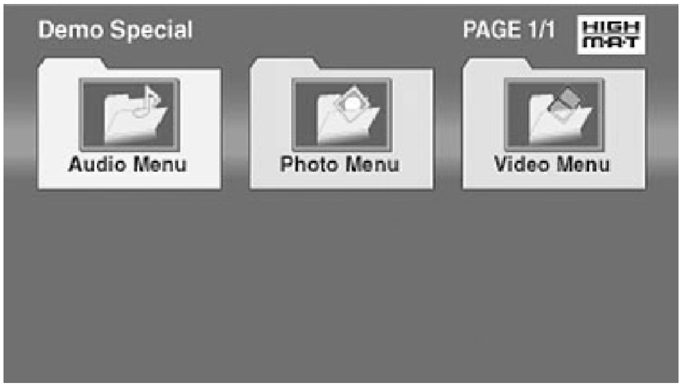
1 **Creating a HighMAT CD makes it easier to navigate different types of media you want to burn onto a CD(Photos, Music).**

Conventional	HighMAT
Even though DVD player is CD-R/RW compatible, the inconsistent ways that various DVD players can read the music or photos files often leads to a confusing and inconsistant playback experince.	HighMAT compatible products play content back with consistent interface. This includes products which are JPEG compatible products without HighMAT support.
	

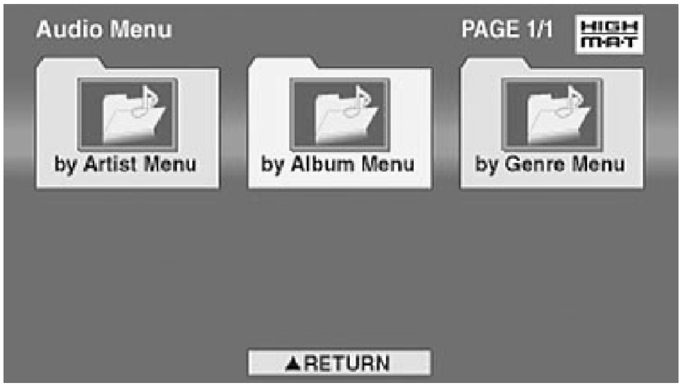
File list
No
Group : Album B
Tree
G 10
T 1
Total 10
1 Track01 - special remix -
2 Track02
3 Track03
4 Track04
5 Track05
6 Track06
7 Track07
8 Track08
9 Track09
10 Track10
SELECT
ENTER
RETURN
Prev
Next

DEMO_MEI_SIMPLE
PAGE 1/1
HIGH MAT
Audio MENU
Picture MENU
Video MENU

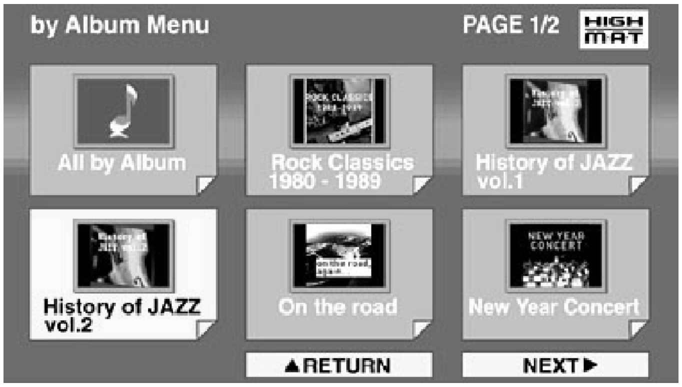
2 **Eliminates compatibility issues and delivers better more consistent access to more music information like artist, song name, genre and photo information (metadata) as well as provide faster access to large amounts of music and photo files burned on CDs.**



Demo Special
PAGE 1/1
HIGH MAT
Audio Menu
Photo Menu
Video Menu

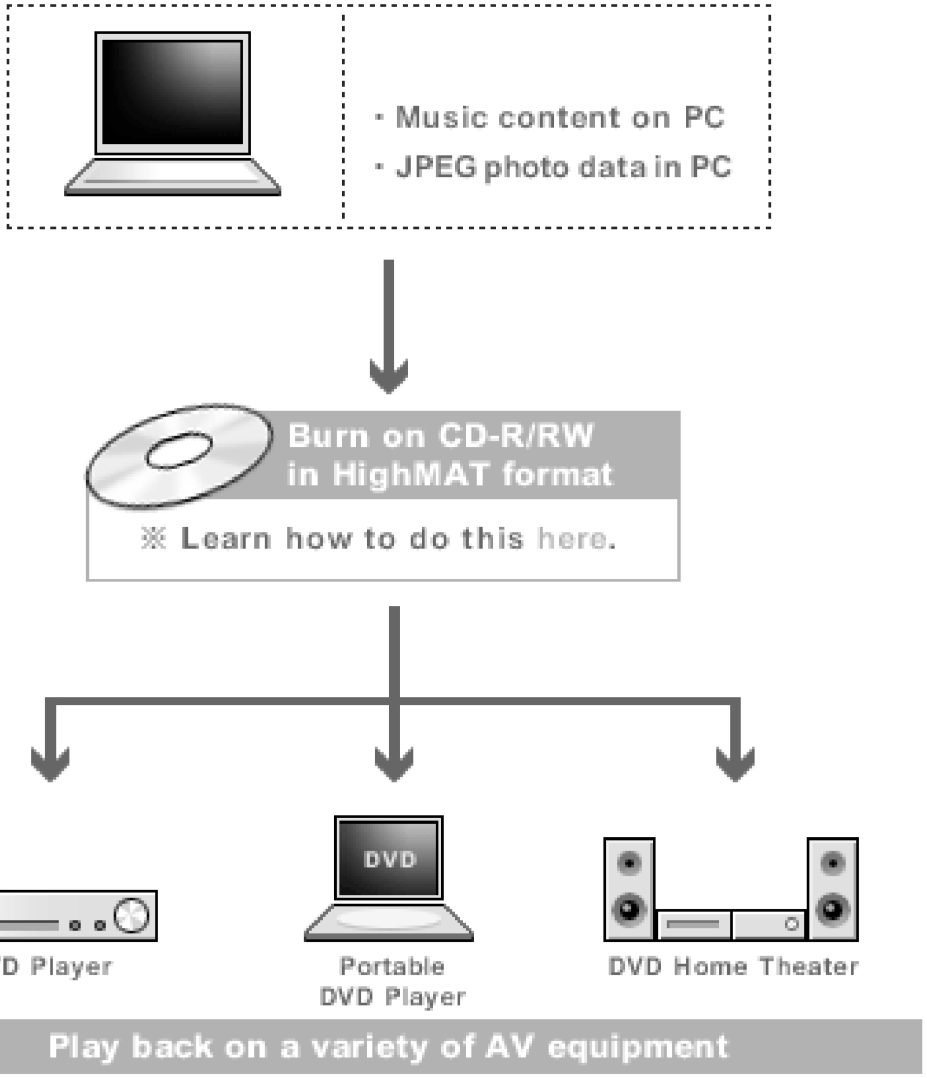


Audio Menu
PAGE 1/1
HIGH MAT
by Artist Menu
by Album Menu
by Genre Menu
▲RETURN


by Album Menu
PAGE 1/2
HIGH MAT
All by Album
Rock Classics 1980 - 1989
History of JAZZ vol.1
History of JAZZ vol.2
On the road
New Year Concert
▲RETURN
NEXT▶

Easy navigation to access disc contents

3 HighMAT CDs can also work on other players.

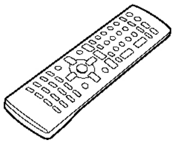

· Music content on PC
· JPEG photo data in PC
Burn on CD-R/RW in HighMAT format
※ Learn how to do this here.
DVD
DVD Player
DVD
Portable DVD Player
DVD Home Theater
Play back on a variety of AV equipment

HighMAT is now available for CD Burning and in Leading DVD PlayersHighMAT is a new technology that is now available in leading software and consumer electronic devices to dramatically improve the digital media experience when you create homemadeCDsHighMAT delivers a simple, standardized way for PC software and consumer electronics devices to talk to each other and work better together.

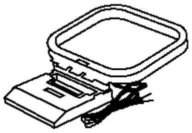
When you create your homemade CDs with software that supports HighMAT CD burning, and then play them back on a DVD player that supports HighMAT, you get better, easier navigation. You get folders you can access with a single click of your DVD player´s remotecontrol. You can view important information about your music like full song names, artist titles, album names and genre. And you can get faster startup on your home entertainment device.

To enjoy the benefits of HighMAT, all you need is software that supports HighMAT for CD burning of music or photos, as well as a home entertainment device like a DVD player that supports HighMAT for playback. Always look for the HighMAT logo onyour software or home entertainment device to ensure it supports the HighMAT experience.

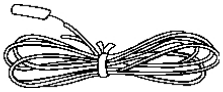
9 Accessories



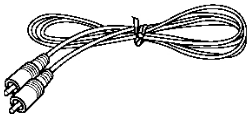
Remote control



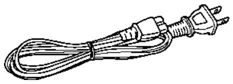
AM loop antenna



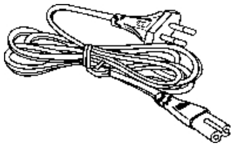
FM indoor antenna



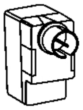
Video Cable



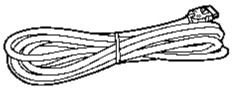
AC cord
(For P, PC areas)



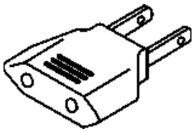
AC cord
(For PX area)



Antenna plug



System cable



Power plug
adapter

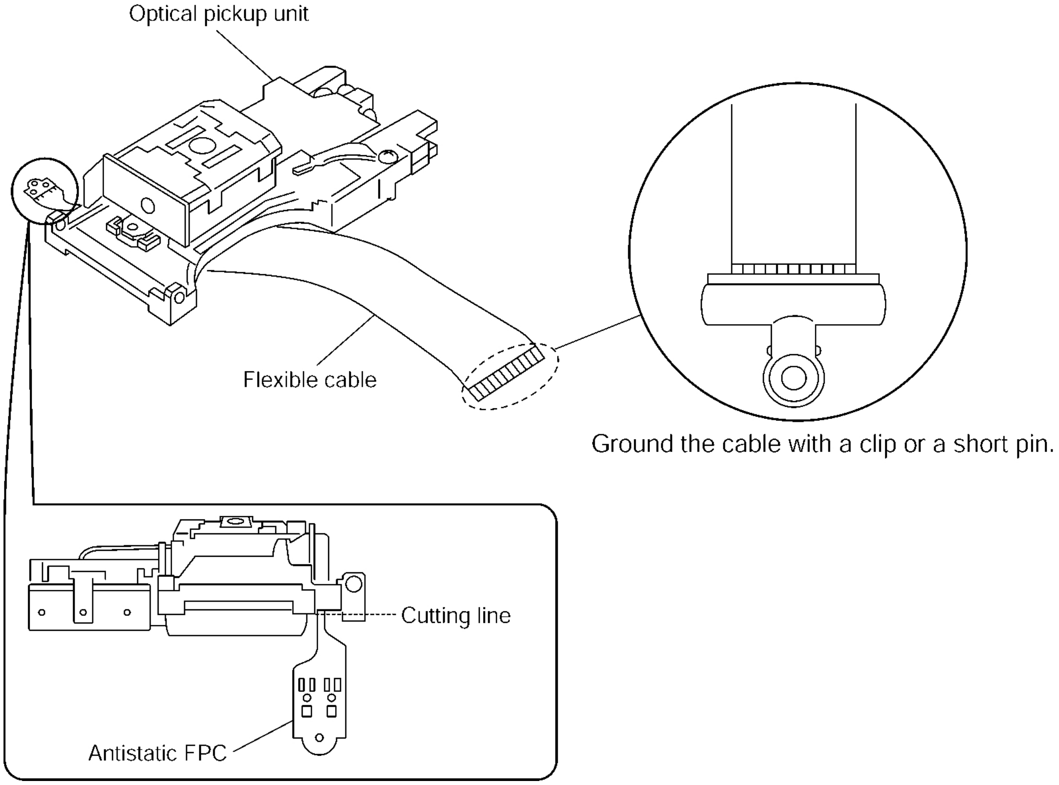
10 Handling Precautions for Optical Pickup Unit

The laser diode in the optical pickup unit may brake down due to static electricity of clothes or human body. Use due caution to electrostatic breakdown when servicing and handling the laser diode.

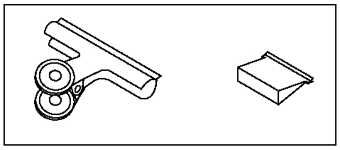
10.1. Cautions to Be Taken in Handling the Optical Pickup Unit

The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Use due caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed from the PCB should be short-circuited with a short pin or a clip.
3. The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the flexible cable.
4. The antistatic FPC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FPC.



Ground the cable with a clip or a short pin.



Clip or Short pin

10.2. Grounding for electrostatic breakdown prevention

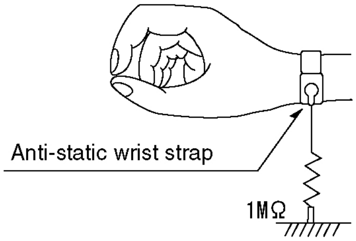
Some devices such as the DVD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

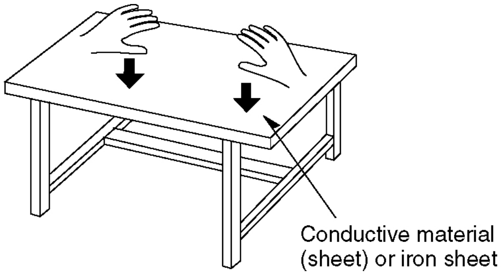
10.2.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet.

10.2.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity form your body.


Anti-static wrist strap
1MΩ


Conductive material
(sheet) or iron sheet

11 Disassembly and Main Component Replacement Procedures

“ATTENTION SERVICER”

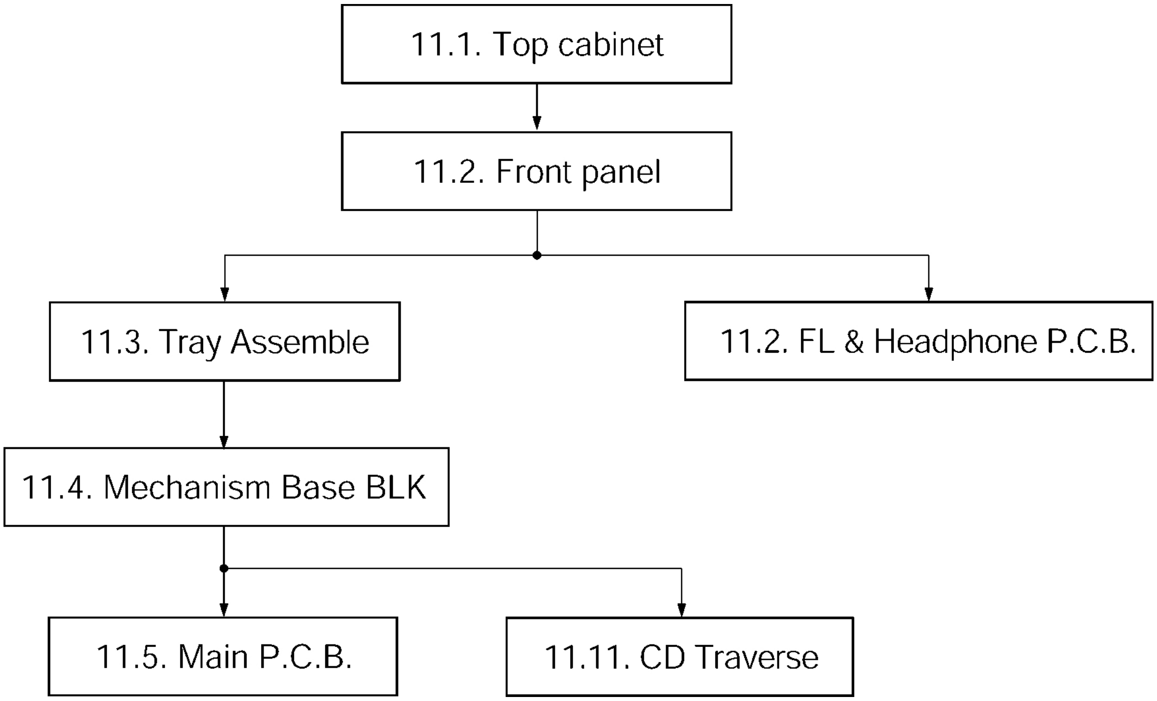
Some chassis components may have sharp edges.

Be careful when disassembling and servicing.

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For assembly after operation checks or replacement, reverse the respective procedures.**
   Special reassembly procedures are described only when required.
3. **Select items from the following index when checks or replacement are required.**

- Disassembling the Top Cabinet
- Disassembling the Front Panel
- Disassembling the Tray Assembly
- Disassembling the Mechanism Base Block
- Disassembling the Main P.C.B
- Removal of the Tray Base Guide (L) and Tray Base Guide (R)
- Removal of the Rotary Tray
- Removal of the Open Lock Gear
- Removal of the Close Lock Gear
- Removal of the Tray Motor P.C.B.and Sensor P.C.B.
- Removal of the CD Traverse Unit
- Removal of the Pulley Gear
- Removal of the Loading Motor P.C.B.
- Removal of the Drive Gear (A) & (B)
- Disassembly the Fixed Plate, Magnet and Clamper
- Removal of the Cam Gear & Support Piece
- Removal of the Slide Plate (L) & (R) and Changer Lever
- Assembly of Tray Base

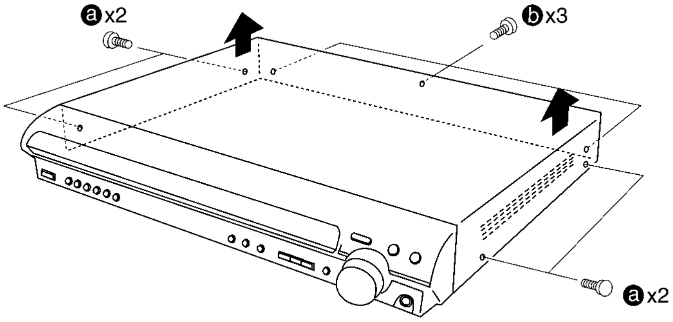
Assembly Procedure



11.1. Disassembling the Top Cabinet

Step 1 Remove 7 screws.

Step 2 Remove the top cabinet in the direction of arrow.



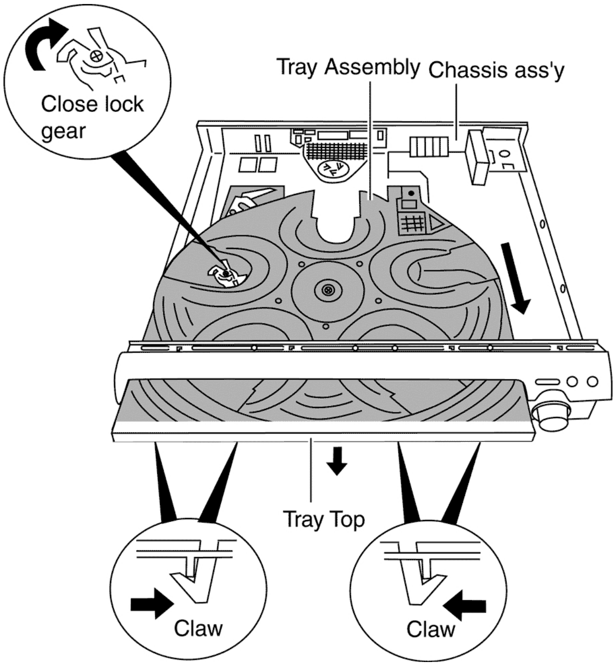
11.2. Disassembling the Front Panel

· Follow the (Step 1) - (Step 2) of Item 11.1.

Step 1 Keep the close lock gear pressed in clockwise, move the tray assembly in the direction of the arrow.

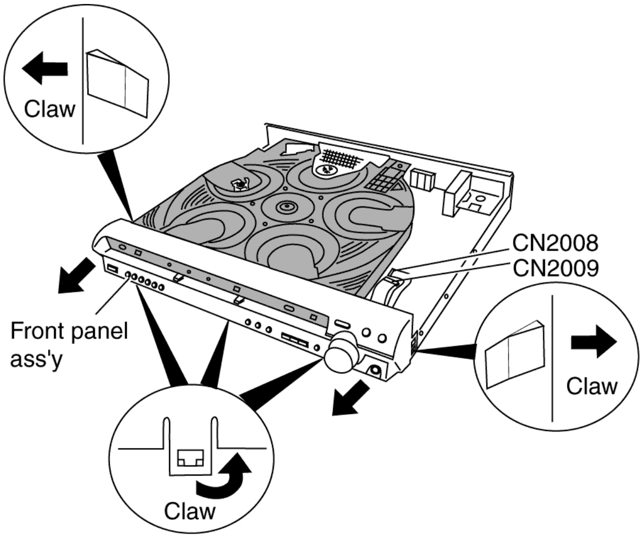
Step 2 Unclock the claws at the bottom of the top tray.

Step 3 Remove the top tray in the direction of arrow.


Close lock gear
Tray Assembly
Chassis ass'y
Tray Top
Claw
Claw

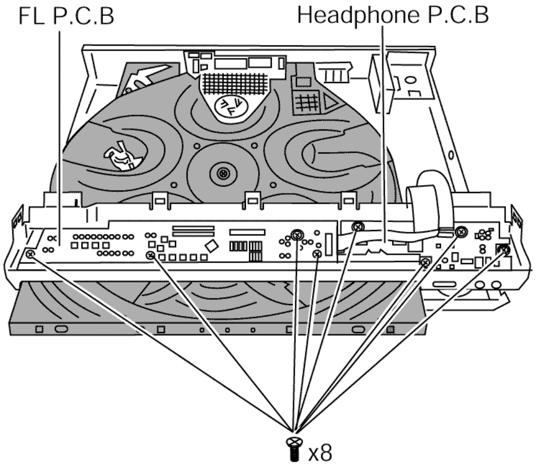
Step 4 Pull out the FFC from connectors (CN2008 & CN2009).

Step 5 Unclock the claws of the front panel ass'y in the directions.


Claw
CN2008
CN2009
Front panel ass'y
Claw
Claw

Step 6 Remove the front panel ass'y in the direction of arrow.

Step 7 Remove 8 screws.

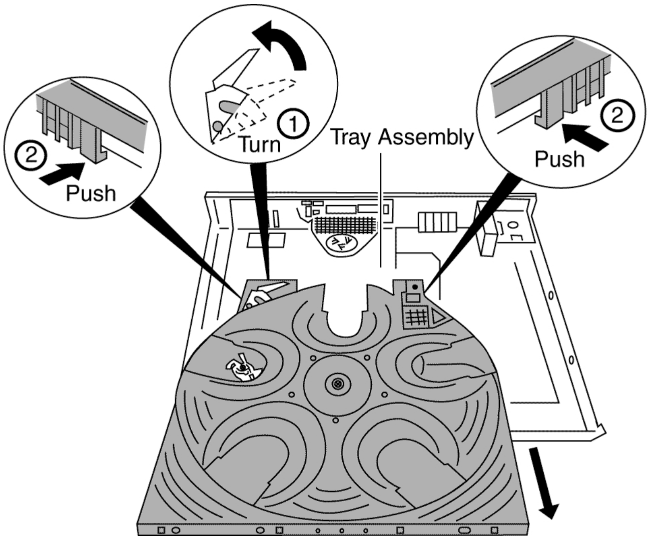

FL P.C.B
Headphone P.C.B
x8

11.3. Disassembling the Tray Assembly

· Follow the (Step 1) - (Step 2) of Item 11.1.

· Follow the (Step 1) - (Step 6) of Item 11.2.

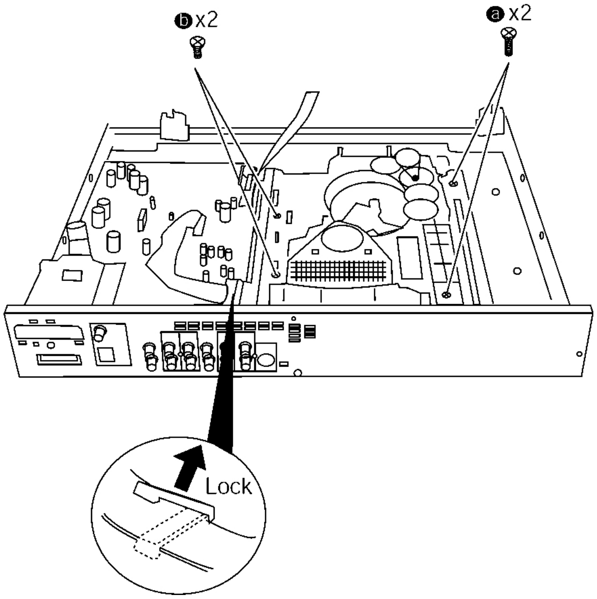
Step 1 Hold gear, push and release the 2 claws in the direction of arrow.


① Turn
② Push
Tray Assembly
② Push

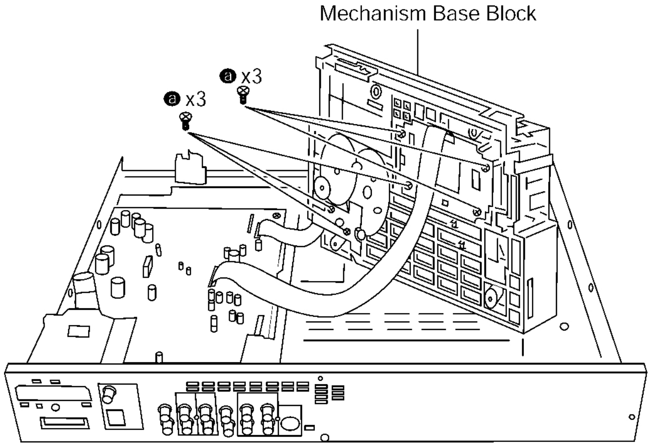
11.4. Disassembling the Mechanism Base Block

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 6) of Item 11.2.
- Follow the (Step 1) of Item 11.3.

Step 1 Remove 4 screws and unlock the lock.



Step 2 Upset mechanism base assembly and remove 6 screws.

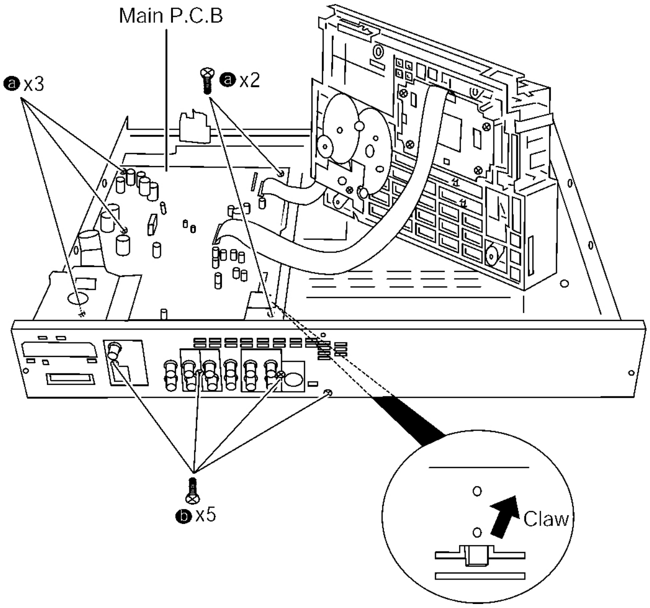

Mechanism Base Block
ⓐx3
ⓐx3

11.5. Disassembling the Main P.C.B

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 6) of Item 11.2.
- Follow the (Step 1) of Item 11.3.
- Follow the (Step 1) of Item 11.4.

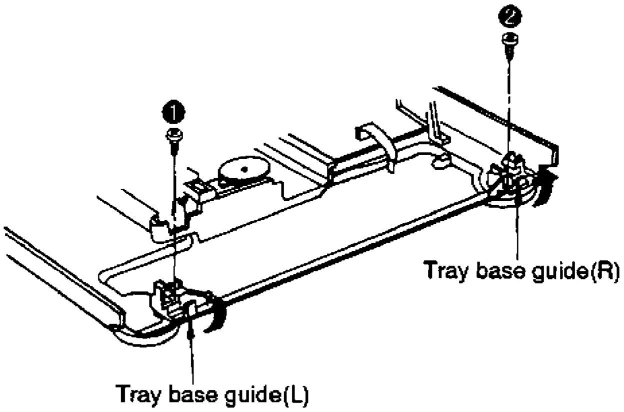
Step 1 Upset mechanism base block.

Step 2 Unlock the claw and remove 10 screws.


Main P.C.B
ⓐx3
ⓐx2
ⓑx5
Claw

11.6. Removal of the Tray Base Guide (L) and Tray Base Guide (R)

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

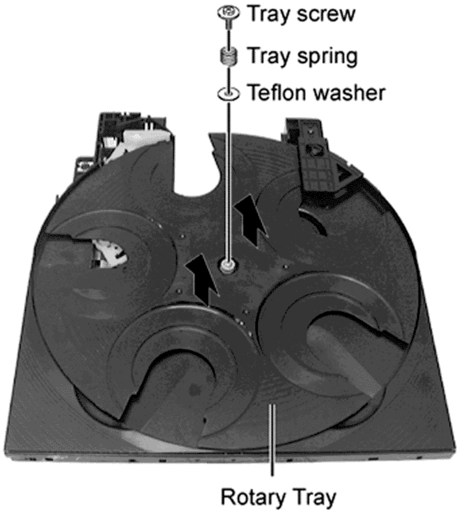

❶
❷
Tray base guide(R)
Tray base guide(L)

Step 1 Remove the 2 screws.

Step 2 Remove the tray base guide (L) and tray guide (R) in the direction of arrow.

11.7. Removal of the Rotary Tray

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

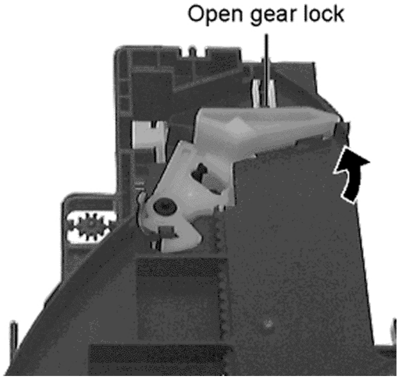

Tray screw
Tray spring
Teflon washer
Rotary Tray

Step 1 Remove tray screw, tray spring and teflon washer.

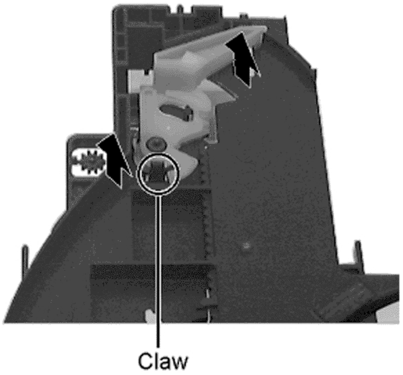
Step 2 Remove rotary tray.

11.8. Removal of the Open Lock Gear

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.
- Follow the (Step 1) - (Step 2) of Item 11.5.


Open gear lock

Step 1 Rotate open lock gear in the direction of arrow. (Anti-clockwise)

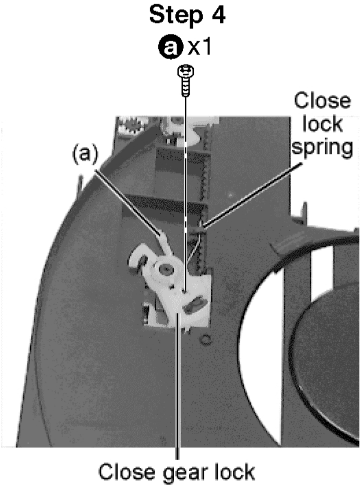


Step 2 Release claw of open lock gear, remove open lock gear in the direction of arrow.

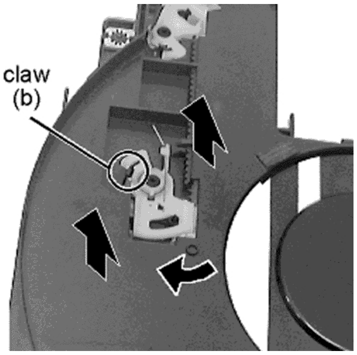
11.9. Removal of the Close Lock Gear

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.
- Follow the (Step 1) - (Step 2) of Item 11.5.

Step 1 Remove 1 screw.


Step 4
ⓐx1
Close lock spring
(a)
Close gear lock

Step 2 Hook close lock spring to claw (a).

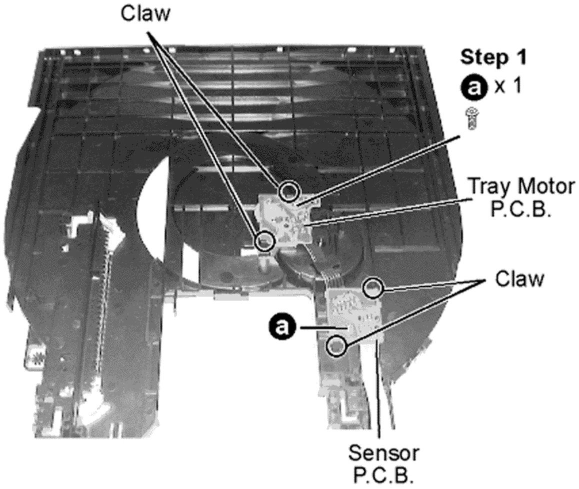


Step 3 Rotate close lock gear to direction of arrow, press claw (b) and pull out close lock gear.

11.10. Removal of the Tray Motor P.C.B. and Sensor P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Remove 2 screws.

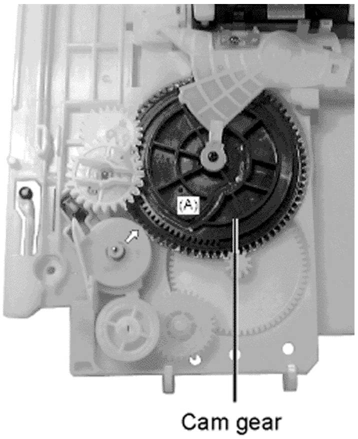

Claw
Step 1
a x 1
Tray Motor P.C.B.
Claw
a
Sensor P.C.B.

Step 2 Release 4 claws at Tray Motor P.C.B. and Sensor P.C.B.

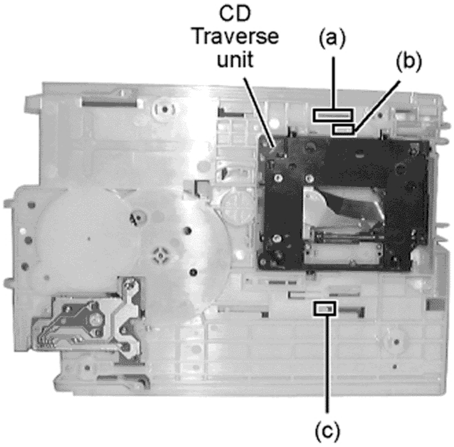
11.11. Removal of the CD Traverse Unit

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Rotate cam gear anti-clockwise. (Align at position (A) as marking on gear with arrow)



Step 2 Flip the base mecha unit in vertical position.

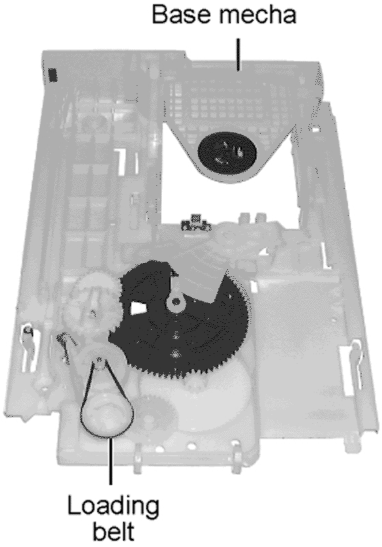

CD Traverse unit
(a)
(b)
(c)

Step 3 Press upward (a), push backward (b) and press to left (c) to release CD traverse unit.

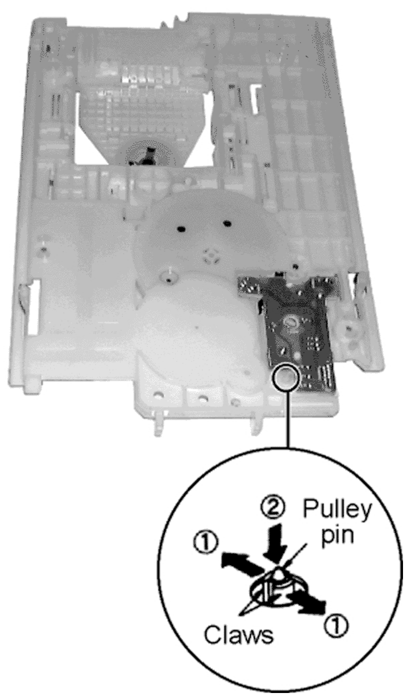
11.12. Removal of the Pulley Gear

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Remove of the loading belt.


Base mecha
Loading belt

Step 2 Flip the base mecha.

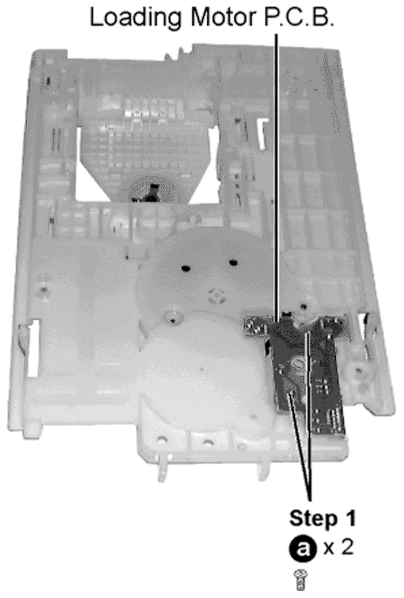

②
Pulley pin
①
Claws
①

Step 3 Release the 2 claws in the direction of arrow (1), and then push the pulley pin in the direction of arrow (2).

11.13. Removal of the Loading Motor P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Remove 2 screws.

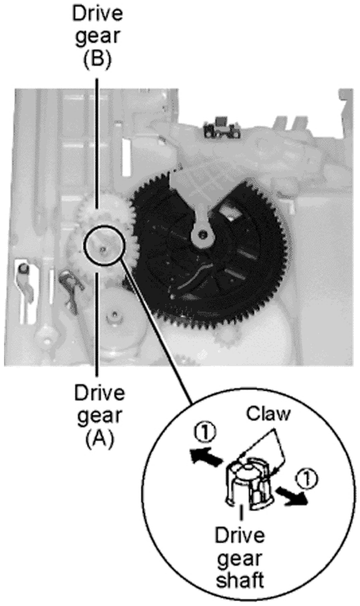

Loading Motor P.C.B.
Step 1
ⓐ x 2

Step 2 Remove Loading Motor P.C.B.

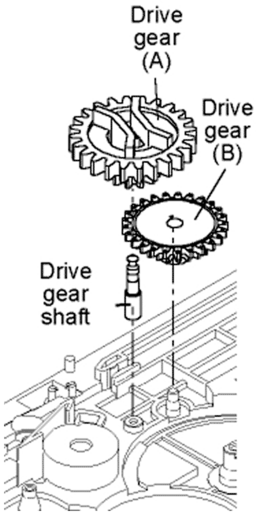
11.14. Removal of the Drive Gear (A) & (B)

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Release the claw in the direction of arrow (1), and then push drive gear shaft up.


Drive gear (B)
Drive gear (A)
Claw
①
①
Drive gear shaft

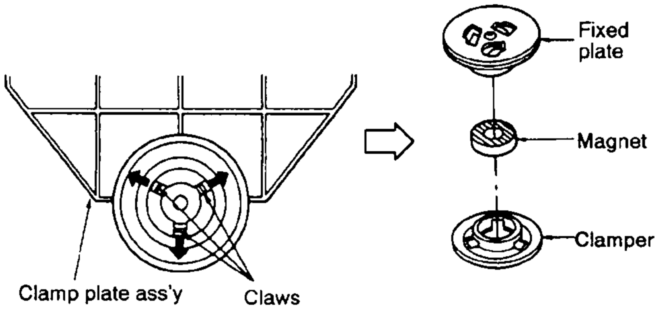
Step 2 Remove Drive Gear (A) and Drive Gear (B).


Drive gear (A)
Drive gear (B)
Drive gear shaft

11.15. Disassembling the Fixed Plate, Magnet and Clamper

- Follow the (Step 1) - (Step 2) of Item 11.1
- Follow the (Step 1) - (Step 4) of Item 11.2.
- Follow the (Step 1) - (Step 5) of Item 11.3.

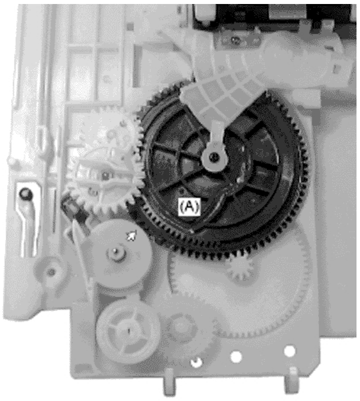
Step 1 Release 3 claws in the direction of arrow.


Fixed plate
Magnet
Clamper
Clamp plate ass'y
Claws

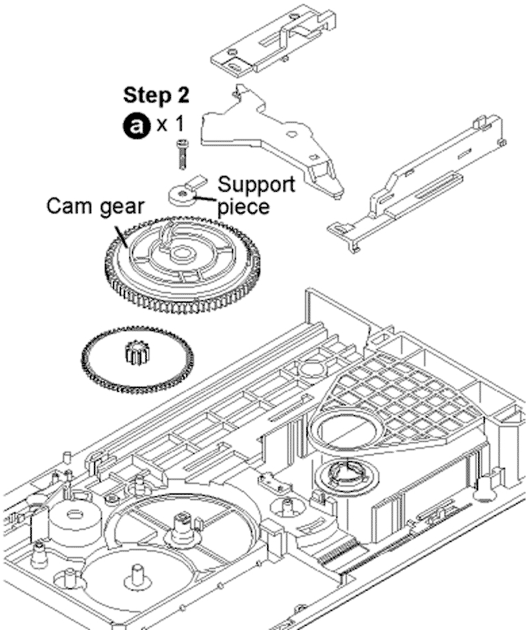
11.16. Removal of the Cam Gear & Support Piece

- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Rotate (A) in cam gear anti-clockwise.



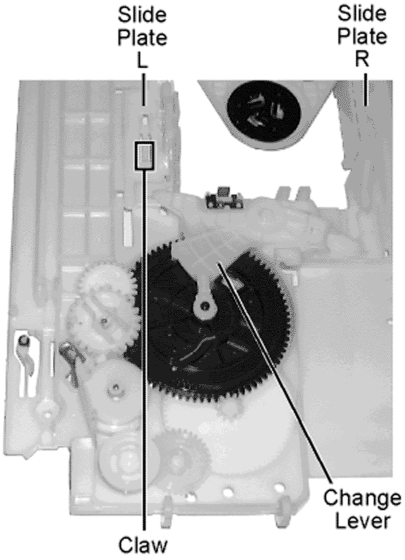
Step 2 Remove 1 screw and support piece.


Step 2
ⓐ x 1
Support piece
Cam gear

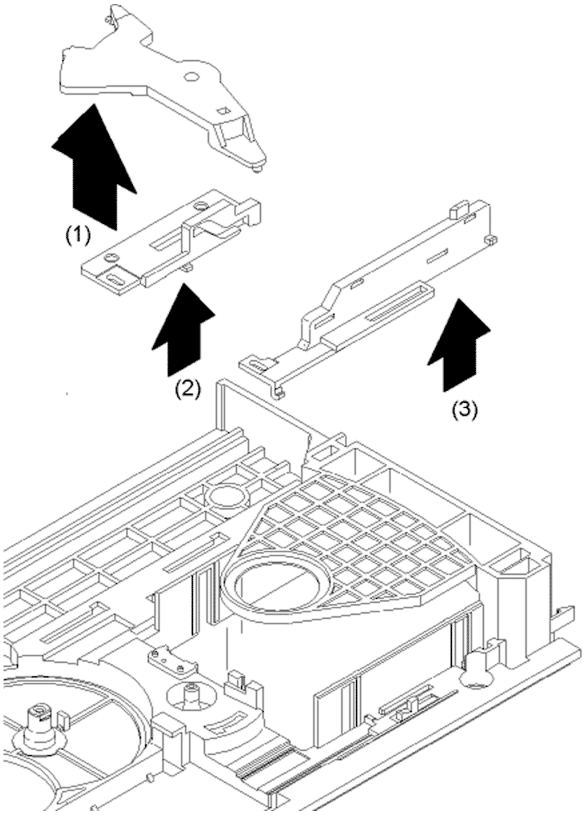
11.17. Removal of the Slide Plate (L) & (R) and Change Lever

- Follow the (Step 1) - (Step 5) of Item 11.3.

Step 1 Press the claw and push the Slide Plate (L) up.

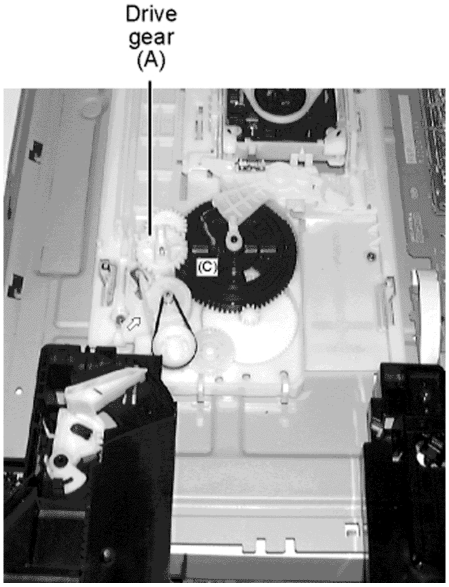

Slide Plate L
Slide Plate R
Change Lever
Claw

Step 2 Remove slide plate (L) & (R) and change lever as arrow shown.

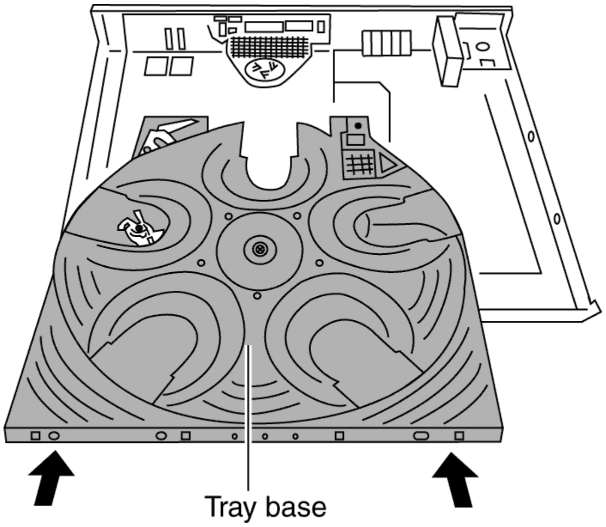


11.18. Assembly of Tray Base

Step 1 Rotate cam gear anti-clockwise. Align at position (C) as marking on gear with arrow.



Step 2 Make sure drive gear (A) at vertical position.



Step 3 Push tray base to the direction of arrow shown.

12 Service Position

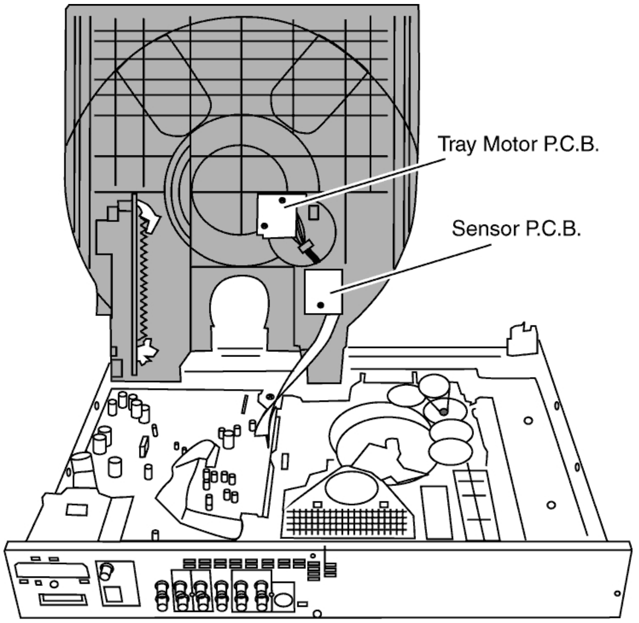
Prepare service tools before proccess service position.

Service Tools	
Loading Motor P.C.B - Main P.C.B	REEX0465 (11 pin)

12.1. Checking, Repair Tray Motor P.C.B and Sensor P.C.B

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 6) of Item 11.2.
- Follow the (Step 1) of Item 11.3.

Step 1 Upset tray assembly.


Tray Motor P.C.B.
Sensor P.C.B.

12.2. Checking, Repair Main P.C.B

- Follow the (Step 1) - (Step 2) of Item 11.1.
- Follow the (Step 1) - (Step 7) of Item 11.2.
- Follow the (Step 1) of Item 11.3.
- Follow the (Step 1) of Item 11.4.
- Follow the (Step 1) - (Step2) of Item 11.5.

Step 1 Change cable (REZ1483) to extended cable (REEX0465).

Step 2 Connect all the cables.

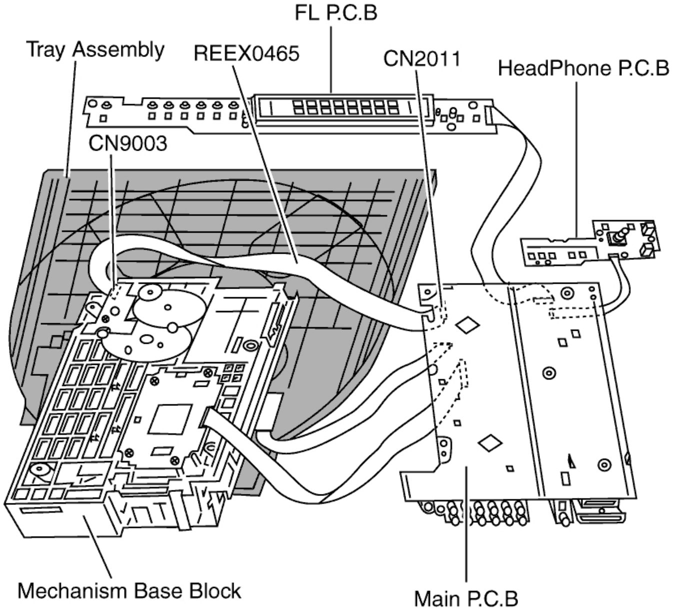
Step 3 Position mechanism base block and tray assembly in horizontally.

Step 4 Connect the system cable and switch on the power.

Step 5 Insert CD into tray assembly.

Step 6 Press CD mode button to lock the CD.

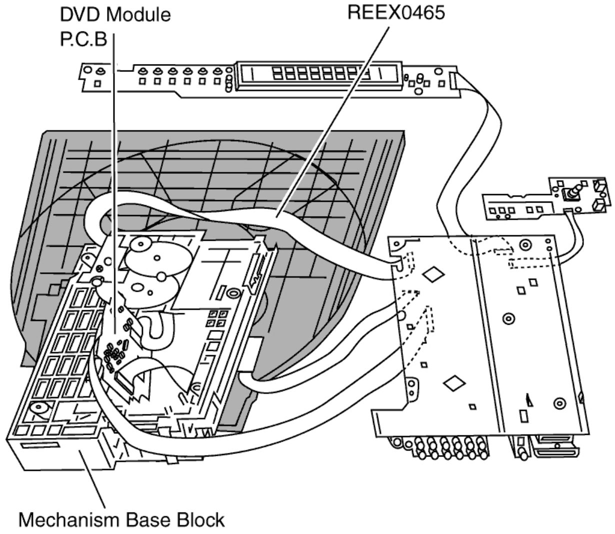
Step 7 Turn over mechanism base block, tray assembly and Main P.C.B and position 3 of it in horizontally.


FL P.C.B
Tray Assembly
REEX0465
CN2011
HeadPhone P.C.B
CN9003
Mechanism Base Block
Main P.C.B

12.3. Checking, Repair DVD Module P.C.B

- Follow the Item 12.2.

Step 1 Remove 4 screws of DVD module P.C.B.


DVD Module P.C.B
REEX0465
Mechanism Base Block

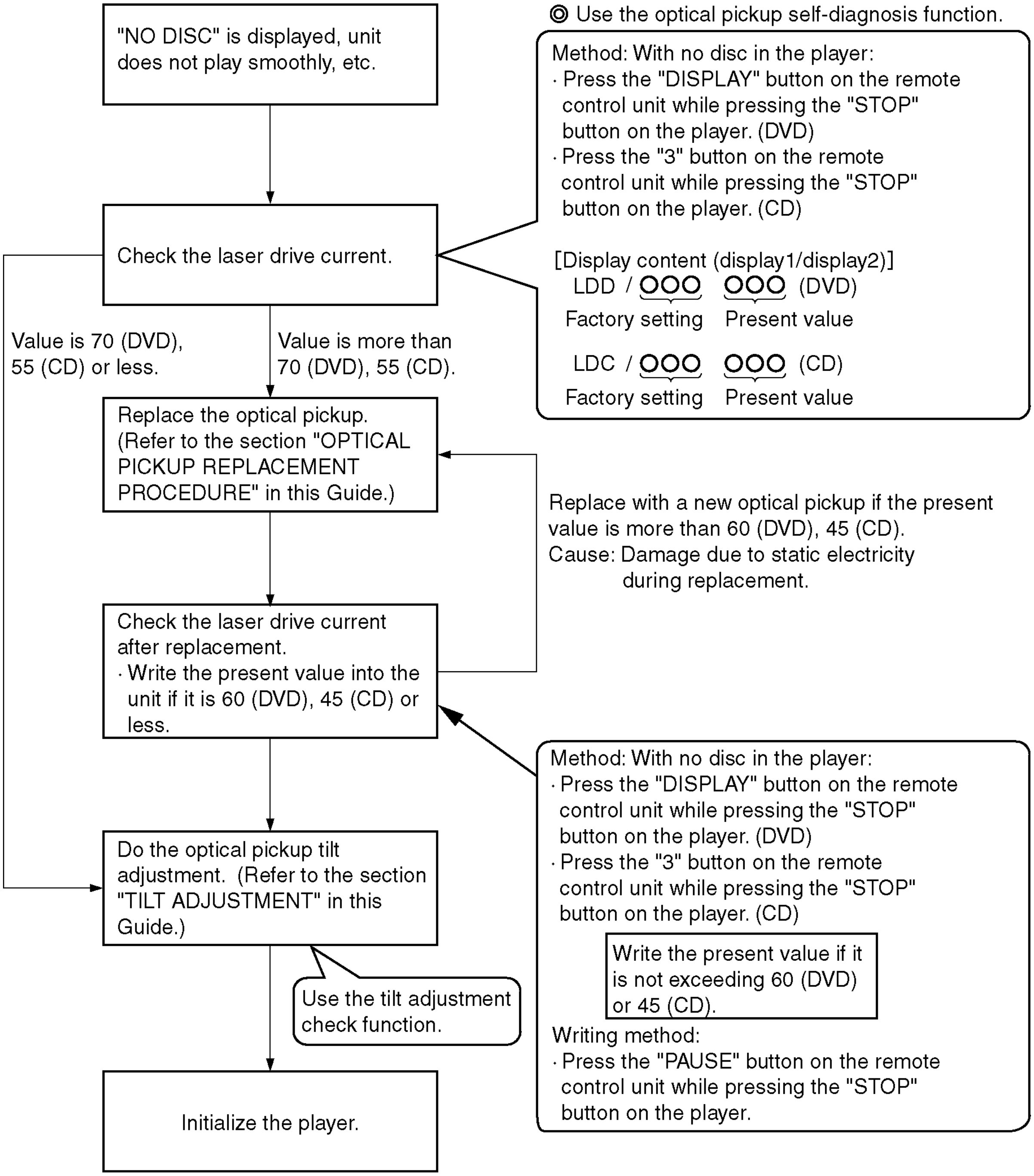
13 DVD-Optical Pick-up Self-Diagnosis and Replacement Procedure

13.1. Optical Pickup Breakdown Diagnosis

The optical pickup self-diagnosis function and tilt adjustment check function have been included in this unit. When repairing, use the following procedure for effective Self-diagnosis and tilt adjustment.Be sure to use the self-diagnosis functionbefore replacing the optical pickup when "NO DISC" is displayed. As a guideline, you should replace the optical pickup when the value of the laser drive current is more than 55.

Note:

Press the power button to turn on the power, and check the value within three minutes before the unit warms up. (Otherwise, the result will be incorrect.)


◎ Use the optical pickup self-diagnosis function.
"NO DISC" is displayed, unit does not play smoothly, etc.
Method: With no disc in the player:
· Press the "DISPLAY" button on the remote control unit while pressing the "STOP" button on the player. (DVD)
· Press the "3" button on the remote control unit while pressing the "STOP" button on the player. (CD)
Check the laser drive current.
[Display content (display1/display2)]
LDD / OOO OOO (DVD)
Factory setting Present value
LDC / OOO OOO (CD)
Factory setting Present value
Value is 70 (DVD), 55 (CD) or less.
Value is more than 70 (DVD), 55 (CD).
Replace the optical pickup. (Refer to the section "OPTICAL PICKUP REPLACEMENT PROCEDURE" in this Guide.)
Replace with a new optical pickup if the present value is more than 60 (DVD), 45 (CD).
Cause: Damage due to static electricity during replacement.
Check the laser drive current after replacement.
· Write the present value into the unit if it is 60 (DVD), 45 (CD) or less.
Method: With no disc in the player:
· Press the "DISPLAY" button on the remote control unit while pressing the "STOP" button on the player. (DVD)
· Press the "3" button on the remote control unit while pressing the "STOP" button on the player. (CD)
Write the present value if it is not exceeding 60 (DVD) or 45 (CD).
Writing method:
· Press the "PAUSE" button on the remote control unit while pressing the "STOP" button on the player.
Do the optical pickup tilt adjustment. (Refer to the section "TILT ADJUSTMENT" in this Guide.)
Use the tilt adjustment check function.
Initialize the player.

13.2. Service Mode Table 1

The service modes can be activated by pressing various button combination on the player and remote control unit.

Player buttons	Remote control unit buttons	Application	Note
STOP	0	Error code display	(Refer to the item, “13.3. DVD Self Diagnostic Function-Error Code ”).
	5	Tilt adjustment	Refer to the item “16.4. Optical adjustment”).
	6	Area number and broadcasting system check	
	7	Built-in program version check	
	DISPLAY	DVD laser drive current check	Refer to the item “13.1. Optical Pickup Breakdown Diagnosis ”.
	3	CD laser drive current check	
	PAUSE	Writing of laser drive current value after replacement of optical pickup (Do use this function only when optical pickup is replaced.)	
	≧10	Initialization of the player (factory setting is restored.) Used after replacement of micro-computer and its peripherals and printed circuit board.	

13.3. DVD Self Diagnostic Function-Error Code

Error Code	Error Content	Additional error explanation
	U, H error	
U11	Focus error	
H01	Tray loading error	
H02	Spindle servo error	(Spindle servo, DSC (IC8251) SP motor, CLV servo error)
H03	Traverse servo error	(Traverse motor, IC8251)
H04	Tracking servo error	
H05	Seek error	
H06	Power error	Cannot switch off the power because of the panel and system computer communication error
H07	Spindle motor drive error	Spindle motor
	DSC related	
F500	DSC error	DSC (IC8251) stops in the occurrence of servo error (startup, focus error, etc.)
F501	DSC not Ready error	DSC-system computer communication error (Communication failure caused by idling of DSC)
F502	DSC Time out error	Similar as F500
F503	DSC communication Failure	Communication error (result error occurred although communication command was sent)
F504	Error adjusting DSC data slice offset	
F505	DSC Attention error	Similar as F500
F506	Invalid media	Disc is flipped over, TOC unreadable, incompatible disc media
	ODC related	
F600	Access failure to management information caused by demodulation error	Operation stopped because navigation data is not accessible caused by the demodulation defect
F601	Indeterminate sector ID requested	Operation stopped caused by the request to access abnormal ID data
F602	Access failure to LEAD-IN caused by demodulation error	LEAD IN data unreadable
F603	Access failure to KEYDET caused by demodulation error	Access failure to CSS data of disc
F610	ODC abnormality	No permission for command execution
F611	6626 QCODE don’t read Error	Access failure to seek address in CD series
F612	No CRC OK for a specific time	Access failure to ID data in DVD series
F620	Laser safeguard: high temperature condition	
F621	Laser safeguard: circuit failure condition	
F630	No reply to KEY DET enquiry	(for internal use only)
F631	CPPM KEY DET is not available till the FILE terminal	(CPPM file system is unreadable caused by scratches)
F632	CPPM KEY DET is not available	Been revoked or falsified
	Disc code	
F103	Illegal highlight Position	Big possibility of disc specification violation during highlight display
	HIC Error	
F4FF	Force initialize failure (time out)	
	Micro computer error	
F700	MBX overflow	When replying message to disc manager
F701	Message command does not end	Next message is sent before replying to disc manager
F702	Message command changes	Message is changed before it is sent as a reply to disc manager
F880	Task number is not appropriate	Message coming from a non-existing task

Error Code	Error Content	Additional error explanation
F890	Sending message when message is being sent to AV task	Sending message to AV task
F891	Message couldn’t be sent to AV task	Begin sending message to AV task
F893	FROM falsification	
F894	EEPROM abnormality	
F895	Language area abnormality	Firm version agreement check for factory preset setting failure prevention
F896	No existence model	Firm version agreement check for factory preset setting failure prevention
F897	Initialize is not completed	Initialize completion check for factory preset setting failure prevention
F898	Disagreement of hardware and software	Unsuitable combination of AV DECORDER, SDRAM and FLASH ROM (firmware)
F8A0	Message command is not appropriate	Begin sending message to AV task

Note:

An error code will be canceled if a power supply is turned OFF.

*1: CPPM is the copy guard function beforehand written in the disk for protection of copyrights.

13.4. Service mode table 2

Pressing various button combinations on the player and remote control unit can activate the service modes.

Item	Player mode and button combination	Function	Display	Cancellation method
Jitter check	In STOP (no disc) mode, press STOP button on the player, and "5" button on the remote control unit.	Jitter check Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more.	J _xxx/yyy_zz (display1/display2) ↑ ↑ ↑ ↑ └ Focus drive value └ Read error counter └ Jitter rate └ Jitter check mode Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Press STOP or OPEN button.
Error code check	In STOP (no disc) mode, press STOP button on the player, and "0" button on the remote control unit. * With pointing of cursor up and down on display	Error code check The latest error code stored in EEPROM is displayed.	Error code (play_err) is expressed in the following convention. Error code = 0 x DAXX is expressed: -> DVDnn UXX Error code = 0 x DBXX is expressed: -> DVDnn HXX Error code = 0 x DXXX is expressed: -> DVDnn FXXX Error code = 0 x 0000 is expressed: -> DVDnn F--- * "xx" denotes the error code.	Cancelled automatically 5 seconds later.
Initial setting of laser drive current	In STOP (no disc) mode, press STOP button on the player, and PAUSE button on the remote control unit.	Initial setting of laser drive currentInitial current value for each of DVD laser and CD laser is separately saved in EEPROM.	LDO_/034_028 (display1/display2) ↑ ↑ ↑ └ CD laser current measurement └ DVD laser current measurement └ Laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 34mA and 28mA for DVD laser and CD laser respectively when the laser is switched on.	Cancelled automatically 5 seconds later.
DVD laser drive current measurement	In STOP (no disc) mode, press STOP button on the player, and DISPLAY button on the remote control unit.	DVD laser drive current measurement ·DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when POWER button on the player is switched off.)	LDD_/034_032 (display1/display2) ↑ ↑ ↑ └ Measured current └ Initial current stored in EEPROM └ DVD laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 34mA and the measured value is 32mA.	Cancelled automatically 5 seconds later.
ADSC internal RAM data check	In STOP (no disc) mode, press STOP button on the player, and "1" button on the remote control unit.	ADSC internal RAM data check ·ADSC internal RAM data is read out and displayed.	OFA_6901 ↑ ↑ └ RAM data for specified address └ Address The value is shown in hexadecimal notation. The above example shows the data in ADSC address OFAh is 6901h.	Press STOP or PLAY button.
CD laser drive current measurement	In STOP (no disc) mode, press STOP button on the player, and "3" button on the remote control unit.	CD laser drive current measurement CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when POWER button on the player is switched off.)	LDC_/028_026 (display1/display2) ↑ ↑ ↑ └ Measured current └ Initial current stored in EEPROM └ CD laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 28mA and the measured value is 26mA.	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Version display	In STOP (no disc) mode, press STOP button on the player, and "7" button on the remote control unit.	Version display	srrr/xxyzzz (display1/display2) System controller release number System controller model number System controller generation Panel controller release number Panel controller model number	Cancelled automatically 5 seconds later.
Initialization	In STOP (no disc) mode, press STOP button on the player , and ≧10 button on the remote control unit.	Initialization User settings are cancelled and player is initialized to factory setting.	--INIT--	———
Area	In STOP (no disc) mode, press STOP button on the player, and "6" button on the remote control unit.	Area number and broadcasting system check	w__xy__zzz Panel controller jumper information N: NTSC / 6: PAL60 N: noPAL / P: PAL Region No.	Cancelled automatically 5 seconds later.
Region and syscon version display	In STOP (no disc) mode, press STOP button on the player, and "8" button on the remote control unit.	Region and syscon display	w_xxyzzz System controller version Destination System controller generation Region	Cancelled automatically 5 seconds later.
Communication error display	In STOP (no disc) mode, press STOP button on the player, and "MENU" button on the remote control unit.	Displays frequency of communication errors between system control IC and mechanism control IC during DVD module.	ER_02_30	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Timer 1 check	In STOP (no disc) mode, press STOP button on the player, and "▲" button on the remote control unit.	Timer 1 check Laser operation timer Operation time is measured separately for DVD laser and CD laser.	T1_1234/5678 (display1/display2) Shown to the left is DVD laser time, and to the right CD laser time. Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	Cancelled automatically 5 seconds later.
Timer 1 reset	While displaying Timer 1 data, press STOP button on the "▼" button on the remote control unit.	Timer 1 reset Laser operation timer Operation time of both DVD laser and CD laser is reset all at once.	T1_0000/0000 (display1/display2)	Cancelled automatically 5 seconds later.
Timer 2 check	In STOP (no disc) mode, press STOP button on the player, and " ▶ " button on the remote control unit.	Timer 2 check Spindle motor operation timer	T2_12345 Time is shown in 5 digits of decimal notation in a unit of 10 hours. "00000" will follow "99999".	Cancelled automatically 5 seconds later.
Timer 2 reset	While displaying Timer 2 data, press STOP button on the player and " ◀ " button on the remote control unit.	Timer 2 reset Spindle motor operation timer	T2_00000	Cancelled automatically 5 seconds later.

13.5. Sales demonstration lock function

This function prevents discs from being lost when the unit is used for sales demonstrations by disabling the disc eject function. "LOCKED" is displayed on the unit, and ordinary operation is disabled.

13.5.1. Setting

- **Prohibiting removal of disc**
  1. Select the DVD/CD function.
  2. Press and hold down the ■ button on the player and the power button on the remote controller unit for at least three seconds. (The message, "___LOCKED_" appears whenthe function is activated.)

Note:

OPEN/CLOSE ⏏ , DISC CHECK and DISC CHANGE buttons are invalid and the player displays "___LOCKED_" while the lock function mode is entered.

- **Prohibiting operation of selector and disk**
  1. Select the DVD/CD function.
  2. Press and hold down the ▶ button on the player and the power button on the remote controller unit for at least three seconds. (The message, "___LOCKED_" appears whenthe function is activated.)

Note:

The following buttons are invalid and the player displays "___LOCKED_" while the lock function mode is entered.

Player	⏏ , ■ , ⏸ , SELECTOR, ⏭ , ⏮ , VOLUME KNOB, DISC CHECK, DISC CHANGE, DISC1-DISC5
Remote controller unit	SLEEP, REPEAT, 0~9, ≧10 , RETURN, TOP MENU, ■ , ⏸ , ⏮ , ⏭ , ⏪ , ⏩ , POSITION MEMORY, TUNER/BAND, D.MIX, CH SELECT/ TEST, SET UP/ MUTING, DISPLAY, GROUP, TV, VCR/ AUX, QUICK REPLAY, SUBTITLE, FL DISPLAY, CH & VOLUME

13.5.2. Cancellation

The lock can be cancelled by the same procedure as used in setting. ("UNLOCK" is displayed on cancellation. Disconnecting the power cable from power outlet does not cancel the lock.)

13.6. Handling After Completing Repairs

Use the following procedure after completing repairs.

13.6.1. Method

Confirm that the power is turned on:

1. Press the "OPEN/CLOSE" button to close the tray.

2. Press the "POWER" button to turn off the power.

3. Disconnect the power plug from the outlet.

13.6.2. Precautions

Do not disconnect the power plug from the outlet with the tray still open, then close the tray manually.

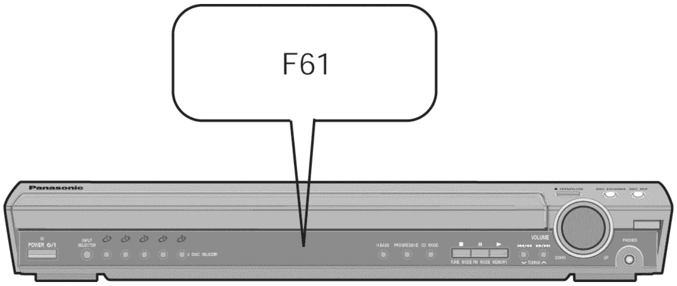
14 Self-Diagnosis Function

14.1. Automatic Displayed Error Codes

14.1.1. Automatic Display Function

For a power unit error, the code is automatically displayed.

F61:	Automatically displayed on the LCD of the player.



14.1.2. Re-Display

- **For F61 Display**
  - When the code, F61 is displayed, the power is automatically turned off.
  - The code, F61 is displayed for three seconds, and then the current time appears.
  - To retrieve the code, turn on the power button so that the code F61 appears, however, is switched to time display after three seconds, and the power is automatically turned off.

14.1.3. Description of Error Code

14.1.3.1. F61

- **State, Condition**

  When the power is turned on, the unit is automatically turned off. The power does not turn on.

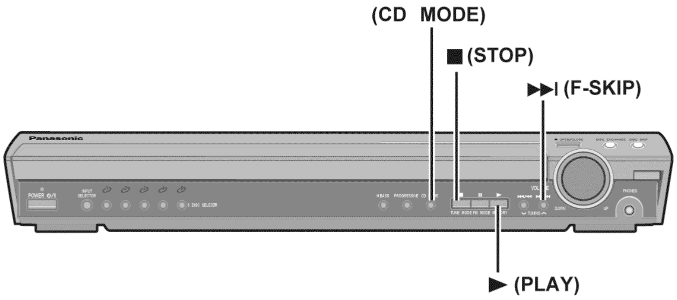
- **Cause, Troubleshooting**

  Power circuit system failure and/or direct current flown to speaker terminal
  Identify the cause and replace with new parts.

14.2. Memorized Error Codes

14.2.1. Activating Self-Diagnosis Function and Displaying Method

1. Turn on the power.
2. Select DVD/CD function. With no DVD/CD inserted in the player, press and hold down the F_SKIP ▶▶I button simultaneously for at least two seconds, and press the "CDMODE" button for at least two seconds in order to display "T__________".
3. Press the ■ button. If a memorized error is detected, the result of self diagnosis is displayed. (Ex.: T H15)(See table below)
   If several errors are detected, press the ■ button to display each.



14.2.2. Re-Display

- Press the power button to turn off the power, and then turn on the power.
- The details of self diagnosis are stored in the unit memory. To retrieve them, follow the procedure described the above, "Activating Self-Diagnosis Function and Displaying Method".

14.2.3. Deleting Details of Self Diagnosis

- After repair, press and hold down the ■ button for at least five seconds, "_ CLEAR __" appears for a second and then "T________" appears. (Deletingthe details of self diagnosis)
- After repairing errors, be sure to delete the details of self diagnosis.

Error Code	State, Condition	Cause, Troubleshooting
H15	The disc tray cannot be opened: it closes spontaneously.	Disc tray open/close detection switch (S9001) failure. (Check and replace)
H16	The disc tray cannot be closed: it opens spontaneously.	

15 Service Precautions

15.1. Recovery after the DVD player is repaired

- When FROM or module P.C.B. is replaced, carry out the recovery processing to optimize the drive.

  Playback the recovery disk to process the recovery automatically.
- Recovery disc (Product number: RFKZD03R005)
- Performing recovery
  1. Load the recovery disc RFKZD03R005 on to the player and run it.
  2. Recovery is performed automatically. When it is finished, a message appears on the screen.
  3. Remove the recovery disc.
  4. Turn off the power.

Note:

This unit requires no initialization process carried out after the traditional DVD players were repaired.

When the recovery measures are taken, the customer setting will return to the factory setting as same as the procedure described in item of "Initialization" in 13.5. is carried out. Write down the contents of the setting before recovery processing,and reset the player.

15.2. Firmware version-up of the DVD player

- The firmware of the DVD player may be renewed to improve the quality including operability and playability to the substandard discs.processing to optimize the drive.

  The recovery disc has also firmware version-up.
- After version-up, recovery processing is executed automatically.
- Part number of the recovery disc for version-up will be noticed when it is supplied.
- Updating firmware
  1. Load the recovery disc that is supplied to the player and run it.
  2. Firmware version of the player is automatically checked. Appropriate message appears whenever necessary.
  3. Using remote controller´s cursor key, select whether version updating is to be done or not. (Selection of Yes/No)
  4. a. If Yes is selected, version updating is performed.

     b. If No is selected, only recovery is performed.
  5. a. When updating is finished, remove the disc according to the message appearing on the screen.

     b. Remove the disc according to the message appearing on the screen.
  6. Turn off the power.

Note:

If the AC power supply is shut out during version-up due to a power failure, the version-up is improperly carried out.

In such a case, replace the FLASH ROM IC and carry out the version-up again.

16 Adjustment Procedure

16.1. Service Tools and Equipment

Application	Name	Number
Tilt adjustment	DVD test disc	DVDT-S20
	TORX screw driver (T6)	Available on sales route. (T6) or RFKZ0185
Others	Grease	RFKXPG641
Confirmation	CD test disc	PVCD-K06 or any other commercially available disc
	VCD test disc	PVCD-K06 or any other commercially available disc
	Recovery disc	RFKZD03R005

16.2. Important points in adjustment

16.2.1. Important points in optical adjustment

- Before starting optical adjustment, be sure to take anti-static measures.
- Optical pickup tilt adjustment is needed after replacement of the following components.

1. Optical pickup unit
2. Spindle motor unit
3. Optical pickup peripheral parts

Notes

Adjustment is generally unnecessary after replacing other parts of the traverse unit. However, make adjustment if there is a noticeable degradation in picture quality. Optical adjustments cannot be made inside the optical pickup. Adjustment is generally unnecessaryafter replacing the traverse unit.

16.2.2. Important points in electrical adjustment

- Follow the adjustment procedures described in this manual.

16.3. Storing and handling of test discs

- Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.

1. Do not place discs directly onto the workbench, etc., after use.
2. Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioners.
3. Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass, etc. If this happens, use a new test disc to make optical adjustments.
4. If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

16.4. Optical adjustment

16.4.1. Optical pickup tilt adjustment

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw Tilt adjustment screw	T01 (inner periphery) play T30 (center periphery) T43 (outer periphery) play	DVDT-S20
Measuring equipment		Adjustment value	
None (Main unit display for servicing is used.)		Adjust to the minimum jitter value.	

16.4.1.1. Adjustment procedure

1. While pressing STOP button on the main unit, press "5" on the remote control unit.
2. Confirm that "J_xxx/yyy_zz" (display1/display2) is shown on the front display.

   For your information:

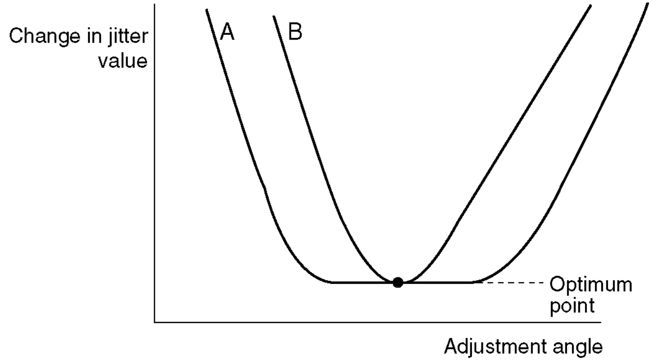
   "yyy" and "zz" shown to the right have nothing to do with the jitter value. "yyy" is the error counter, while "zz" is the focus drive value.

   Note:

   Jitter value appears on the front display.
3. Play test disc T30 (center periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized.
5. Play test disc T30 (center periphery).
6. Adjust tilt adjustment screw 1 so that the jitter value is minimized.
7. Play test disc T30 (center periphery).
8. Adjust tilt adjustment screw 2 so that the jitter value is minimized.
9. Repeat adjusting tilt adjustment screws 1 and 2 alternately until the jitter value is minimized.

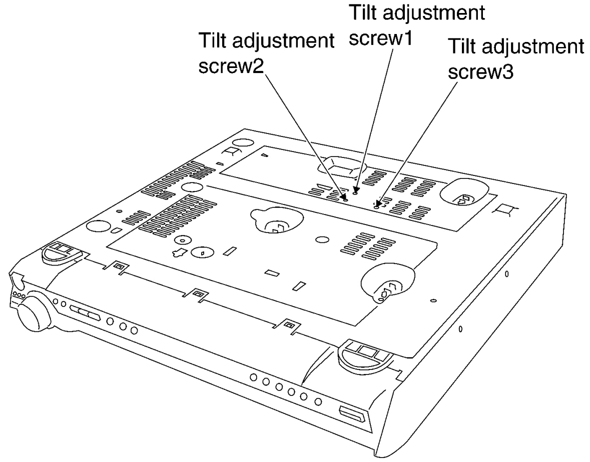
16.4.1.2. Important points

1. Make tangential adjustment first, and then make tilt adjustment.
2. Repeat adjusting two or three times to find the optimum point.
3. Finish the procedure with tilt adjustment.



Jitter value depends on the model:

1. If the jitter value changes like B, the optimum point is easy to find.
2. If the jitter value changes like A, set the optimum point near the middle.

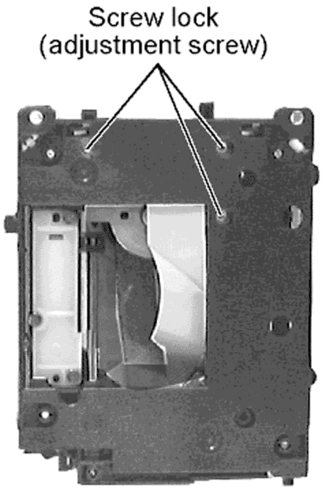


16.4.1.3. Check after adjustment

Play test disc or any other disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping. After adjustment is finished, lock each adjustment screw in position using screw lock.

16.4.1.4. Procedure for screw lock

1. After adjustment, remove top cover, tray, clamper base and traverse unit in this sequence.
2. Lay the traverse unit upside down, and fix adjustment screw with screw lock.
3. After fixing, reassemble traverse unit, clamper base, tray and top cover.



17 Abbreviations

INITIAL/LOGO		ABBREVIATIONS
A	A0~UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0~UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	AUDIO RF
	ASI	SERVO AMP INVERTED INPUT
	ASO	SERVO AMPOUTPUT
	ASYNC	AUDIO WORD DISTINCTION SYNC
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
	BYTCK	BYTE CLOCK
C	CAV	CONSTANT ANGULAR VELOCITY
	CBDO	CAP. BLACK DROP OUT
	CD	COMPACT DISC
	CDSCK	CD SERIAL DATA CLOCK
	CDSRDATA	CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEM CLOCKSELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIPSELECT
	CSYNCIN	COMPOSITE SYNC IN
	CSYNCOUT	COMPOSITE SYNC OUT
D	DACCK	D/A CONVERTER CLOCK
	DEEMP	DEEMPHASIS BIT ON/OFF
	DEMPH	DEEMPHASIS SWITCHING
	DIG0~UP	FL DIGIT OUTPUT
	DIN	DATA INPUT
	DMSRCK	DM SERIAL DATA READ CLOCK
	DMUTE	DIGITAL MUTE CONTROL
	DO	DROP OUT
	DOUT0~UP	DATAOUTPUT
	DRF	DATA SLICE RF (BIAS)
	DRPOUT	DROP OUT SIGNAL
	DREQ	DATA REQUEST
	DRESP	DATA RESPONSE
	DSC	DIGITAL SERVO CONTROLLER
	DSLF	DATA SLICE LOOP FILTER
	DVD	DIGITAL VIDEO DISC
E	EC	ERROR TORQUE CONTROL
	ECR	ERROR TORQUE CONTROL REFERENCE
	ENCSEL	ENCODER SELECT
	ETMCLK	EXTERNAL M CLOCK (81MHz/40.5MHz)
	ETSCLK	EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI	FOCUS ERROR AMP INVERTED INPUT
	FEO	FOCUS ERROR AMP OUTPUT
	FG	FREQUENCY GENERATOR
	FSC	FREQUENCY SUB CARRIER
	FSCK	FS (384 OVER SAMPLING) CLOCK
G	GND	COMMON GROUNDING (EARTH)
H	HA0~UP	HOST ADDRESS
	HD0~UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFRAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK
M	MA0~UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK	MEMORY SERIAL COMMAND CLOCK
	MDATA	MEMORY SERIAL COMMAND DATA
	MDQ0~UP	MEMORY DATA INPUT/OUTPUT
	MDQM	MEMORY DATA I/O MASK
	MLD	MEMORYSERIAL COMMAND LOAD
	MPEG	MOVING PICTURE EXPERTS GROUP
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1~UP	PORT
	PCD	CD TRACKING PHASE DIFFERENCE
	PCK	PLL CLOCK
	PDVD	DVD TRACKING PHASE DIFFERENCE
	PEAK	CAP. FOR PEAK HOLD
	PLLCLK	CHANNEL PLL CLOCK
	PLLOK	PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSE WAVE MOTOR DRIVEA
	PWMOA, B	PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE OUTPUT
	RS	(CD-ROM) REGISTER SELECT
	RSEL	RF POLARITY SELECT
	RST	RESET
	RSV	RESERVE
S	SBI0, 1	SERIAL DATA INPUT
	SBO0	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK RECEIVER
	SCL	SERIAL CLOCK
	SCLK	SERIAL CLOCK
	SDA	SERIAL DATA
	SEG0~UP	FL SEGMENT OUTPUT
	SELCLK	SELECTCLOCK
	SEN	SERIAL PORT ENABLE
	SIN1, 2	SERIAL DATA IN
	SOUT1, 2	SERIAL DATA OUT
	SPDI	SERIAL PORT DATA INPUT
	SPDO	SERIAL PORT DATA OUTPUT
	SPEN	SERIAL PORT R/W ENABLE
	SPRCLK	SERIAL PORT READ CLOCK
	SPWCLK	SERIAL PORT WRITE CLOCK
	SQCK	SUB CODE Q CLOCK
	SQCX	SUBCODE Q DATA READ CLOCK
	SRDATA	SERIAL DATA
	SRMADR	SRAM ADDRESS BUS
	SRMDT0~7	SRAM DATA BUS 0~7
	SS	START/STOP
	STAT	STATUS
	STCLK	STREAM DATA CLOCK
	STD0~UP	STREAM DATA
	STENABLE	STREAM DATA INPUT ENABLE
	STSEL	STREAM DATA POLARITY SELECT
	STVALID	STREAM DATAVALIDITY
	SUBC	SUB CODE SERIAL
	SBCK	SUB CODE CLOCK
	SUBQ	SUB CODE Q DATA
	SYSCLK	SYSTEM CLOCK
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSSSIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VIDEO FEED BACK
	VREF	VOLTAGE REFERENCE
	VSS	SOURCE POWER SUPPLYVOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER
X	X	X´ TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPTREQUEST
	XI	X´ TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X´ TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIPSELECT
	XVDS	X V-DEC CONTROL BUS STROBE
	XVSYNCO	X VERTICAL SYNC OUTPUT

18 Voltage Chart

18.1. DVD Module P.C.B.

Ref No.	IC8001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.1	3.0	0	3.1	3.3	3.4	3.0	3.1	0	0	3.1	3.4	2.9	3.1	3.0	0	3.0	3.0	3.4	0
Ref No.	IC8001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.4	-	-	1.5	0.8	1.2	1.0	3.4	0	0.5	1.0	-	-	3.4	0	-	-	2.4	-	-
Ref No.	IC8001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	-	-	-	1.2	-	-	-	3.4	0	-	-	2.5	0	0	0	-	-	-	-	-
Ref No.	IC8001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	-	3.4	0	0	0.1	1.0	1.0	3.0	2.8	3.1	0.1	0.1	3.2	0	1.7	.0	1.7	0.1	3.4	0
Ref No.	IC8001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	3.4	0.1	3.4	3.4	0.1	0.1	0	0.1	1.2	0	0	0	0	0.1	0.1	0	0	3.4	0.8	0.1
Ref No.	IC8001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CD PLAY	2.4	2.1	1.9	0.3	0	1.9	3.4	2.1	2.1	1.9	1.8	1.1	1.1	1.7	1.7	1.7	1.7	3.3	2.0	1.7
Ref No.	IC8001																			
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
CD PLAY	1.5	0	0	0.1	0	0	2.3	1.7	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.4	0	2.4	0	0
Ref No.	IC8001																			
MODE	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
CD PLAY	0.5	0	0	0	0	1.1	2.2	1.7	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.4	0	2.4	3.4	0
Ref No.	IC8001																			
MODE	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
CD PLAY	3.4	0	0	0	0	3.4	3.4	1.7	0	1.7	0.9	1.2	0	0	0	0.9	1.7	3.4	0	3.4
Ref No.	IC8001																			
MODE	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
CD PLAY	0	3.4	0	0	-	-	-	-	-	3.4	0	1.0	1.7	0	1.5	3.4	1.3	0.5	1.5	1.4
Ref No.	IC8001																			
MODE	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
CD PLAY	0	3.4	3.4	1.2	0	1.7	1.4	1.4	3.4	3.4	1.0	1.8	0	-	-	3.4	2	0	1.2	1.6
Ref No.	IC8001																			
MODE	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
CD PLAY	0.2	0	1.7	0.2	3.4	1.7	0.1	0.9	0	0.1	3.4	1.6	-	2.2	0	1.2	0.1	0.1	3.4	3.2
Ref No.	IC8001																			
MODE	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256				
CD PLAY	1.7	0	1.7	3.3	3.4	3.4	0	3.3	2.6	0	3.6	2.8	0	2.9	3.4	2.9				
Ref No.	IC8051																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.4	3.2	3.4	3.1	3.2	0.1	3.2	3.4	3.1	3.0	-	0.1	2.9	3.4	2.7	3.3	3.3	3.3	3.0	2.2
Ref No.	IC8051																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.6	0.1	-	-	-	-	3.4	0	-	-	-	-	-	-	-	-	3.4	1.7	2.7	-
Ref No.	IC8051																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
CD PLAY	0.1	3.0	3.4	3.2	3.1	0	3.0	3.1	3.4	2.8	2.8	0	2.9	0						
Ref No.	IC8111																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.4	0	0.1	-	-	0	0	4.9												
Ref No.	IC8251																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.7	1.7	1.7	1.9	1.9	1.8	0	4.9	3.4	0.1	2.6	2.4	2.5	2.5	4.5	4.6	5.1	4.0	0.1	0.6
Ref No.	IC8251																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	9.6	9.4	1.8	1.7	1.7	1.7	3.4	3.2												
Ref No.	IC8421																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	3.4	3.0	3.4	1.7	0.9	1.7	1.7	4.8	0	0.9	0.1	0.1	0	2.4	2.4	4.9	0	2.4	2.4
Ref No.	IC8421																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	2.4	4.9	-	0	2.5	2.4	2.4	4.8												
Ref No.	IC8601																			
MODE	1	2	3																	
CD PLAY	0	3.2	3.4																	
Ref No.	IC8606																			
MODE	1	2	3	4	5															
CD PLAY	0.7	1.2	0	0	0															
Ref No.	IC8611																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0.1	0.1	0.1	0.1	3.4	3.4	0.1	3.4												
Ref No.	IC8651																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-	-	-	-	-	-	-	-	-	-	-	2.9	3.4	3.4	1.0	-	-	-	-	-
Ref No.	IC8651																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-	-	-	-	-	2.4	0	1.9	1.0	1.0	1.0	1.0	1.4	1.2	1.5	1.5	3.4	1.4	1.2	1.3
Ref No.	IC8651																			
MODE	41	42	43	44	45	46	47	48												
CD PLAY	1.4	1.4	1.7	1.7	1.9	0	3.4	-												
Ref No.	IC8691										IC8695									
MODE	1	2	3	4	5						1	2	3	4	5					
CD PLAY	3.0	3.0	0.1	4.3	4.9						0	0	0	0	4.9					
Ref No.	Q8550				Q8551				Q8552				Q8560				Q8561			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	4.9	4.8	4.2		0.1	4.8	0.1		4.8	0	4.8		0.1	0.1	0.7		1.5	3.5	2.1	
Ref No.	Q8562				Q8606				Q8607											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	4.2	2.3	3.6		0	0.1	0.7		0	3.2	0.1									
Ref No.	QR8111				QR8112				QR8420				QR8571							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0.1	0.1	1.2		0.1	4.5	0.1		0	4.0	0.1		3.4	3.3	0.1					

18.2. Main P.C.B.

Ref No.	IC2006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	4.8	2.5	2.1	1.5	4.8	1.5	0	2.0	1.9	0	1.9	0	1.5	1.5	1.5	2.0				
STANDBY	0.1	0	0.1	0	0.1	0	0	0.2	0.2	0	0.1	0.1	0.1	0.1	0.1	0				
Ref No.	IC2007																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	0	0.3	0	0.3	9.0	9.6	0	0	0											
STANDBY	0	0.1	0	0.1	1.3	0.1	0	0	0											
Ref No.	IC2008																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	0	0.3	0	0.3	9.0	9.6	0	0	0											
STANDBY	0	0.1	0	0.1	1.4	0.1	0	0	0											
Ref No.	IC2010																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.9												
STANDBY	0.4	0.4	0.1	0.1	0.1	0.4	0.4	0.2												
Ref No.	IC2011																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	0	0.2	0.2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2011																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	-6.5	2.0	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0.3	0	0	0	0	0.1	0	0	0	0	0	0	0
Ref No.	IC2011																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	-6.7	6.9	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0.2	0.2	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0.2	0.2	0	0
Ref No.	IC2011																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2013																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.9												
STANDBY	0.3	0.3	0	0.1	0	0.4	0.4	0.2												
Ref No.	IC2014																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.9	-6.7	0.1	0.1	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.1	0.1	0.1	0
Ref No.	IC2015																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.9												
STANDBY	0.3	0.3	0	0.1	0	0	0	0.2												
Ref No.	IC2018																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	4.8	1.5	4.8	2.4	4.8	0.2	0	0	4.8	4.6	2.3	2.3	0	0	4.6	0	3.2	4.0	4.4
STANDBY	0	4.8	1.6	4.8	2.4	4.8	4.7	0	0	4.8	4.7	2.4	2.4	0	0	4.7	0	0	0	2.7
Ref No.	IC2018																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	4.6	0	0	0	0	4.7	4.5	4.8	0.1	0.1	2.5	4.6	4.6	4.4	4.5	0.1	4.2	0.1	0.1	0.1
STANDBY	0	0	0	0	0	4.7	4.7	4.8	4.8	4.8	2.6	4.7	4.7	4.4	0.1	0.1	0.1	0.1	0.1	0.1
Ref No.	IC2018																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	4.7	0.1	4.2	0.1	4.6	4.8	0	0.1	4.1	0.1	0.1	4.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
STANDBY	4.7	0.1	0.1	0.1	0.1	4.8	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0
Ref No.	IC2018																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	3.6	4.7	0.1	4.7	4.7	4.7	4.7	4.6	4.6	4.0	4.6	4.6	4.2	0	4.7	4.7	0.1	0	0	0
STANDBY	3.2	3.0	4.8	4.8	4.8	4.8	0.1	0	0	0	0	0.6	0	0	4.8	4.8	4.7	0	0	0
Ref No.	IC2018																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	4.5	0	0	0	0	0	0	0	3.2	4.4	-	0	0	0	0	0	0	4.8
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	4.8
Ref No.	IC2019																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	4.8	0	0	0	0	0	0												
STANDBY	0	4.8	0	0	0	0	0	0												
Ref No.	IC2601																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	0	0	0	6.9	0	0	0	0	0	0	-6.7	0	0	0						
STANDBY	0	0	0	0.2	0	0	0	0	0	0	0.1	0	0	0						
Ref No.	IC2602																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.9												
STANDBY	0	0	0	0.2	0	0	0	0.2												
Ref No.	IC2801										IC2802									
MODE	1	2	3	4	5						1	2	3							
CD PLAY	16.0	6.1	0	1.0	3.6						6.0	0	5.0							
STANDBY	0	0	0	0	0.1						0.2	0	0.8							
Ref No.	IC2803																			
MODE	1	2	3	4	5	6														
CD PLAY	0.8	3.0	0	1.4	3.9	0														
STANDBY	0	0	0	0	0.1	0														

Ref No.	Q2000				Q2001				Q2002				Q2004				Q2026			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	4.6	0		0	0	4.2		0	0	4.2		0	0.1	4.4		0.1	-4.5	0	
STANDBY	0	4.7	0		0	0	4.3		0	0	4.3		0	0.1	0.1		0.1	0.1	0	
Ref No.	Q2028				Q2029				Q2031				Q2100							
MODE	E	C	B		E	C	B		E	C	B		1	2	3	4	5	6		
CD PLAY	0	0.1	4.0		0	0.1	3.1		0	1.3	0		0	-4.5	0	0	-4.5	0		
STANDBY	0	0.1	0		0	1.8	0		0	1.2	0		0	0.1	0	0	0.1	0		
Ref No.	Q2102								Q2103				Q2104							
MODE	1	2	3	4	5	6			E	C	B		1	2	3	4	5	6		
CD PLAY	0	-4.5	0	0	-4.5	0			1.6	1.6	0		0	0.6	0	0	0.6	0		
STANDBY	0	0.1	0	0	0.1	0			0	0.1	0		0	0.1	0	0	0.1	0		
Ref No.	Q2105				Q2106								Q2200							
MODE	E	C	B		1	2	3	4	5	6			1	2	3	4	5	6		
CD PLAY	0.1	-4.3	0		0	0.6	0	0	0.6	0			0	-4.3	0	0	-4.3	0		
STANDBY	0.1	0.1	0		0	0.1	0	0	0.1	0			0	0.1	0	0	0.1	0		
Ref No.	Q2201				Q2302								Q2305				Q2500			
MODE	E	C	B		1	2	3	4	5	6			E	C	B		E	C	B	
CD PLAY	0.1	-4.6	0		0	0.6	0	0	0.6	0			1.1	1.1	0		2.0	2.0	0	
STANDBY	0	0.1	0		0	0.1	0	0	0.1	0			0.1	0.1	0		0.1	0.1	0	
Ref No.	Q2600				Q2601								Q2602				Q2603			
MODE	E	C	B		1	2	3	4	5	6			E	C	B		E	C	B	
CD PLAY	2.0	2.0	0		0	0.7	0	0	0.7	0			5.0	5.0	0.1		2.0	2.0	0	
STANDBY	0.1	0.1	0		0	0.1	0	0	0.1	0			2.5	0	4.7		0	0.1	0	
Ref No.	Q2604								Q2605				Q2801				Q2803			
MODE	1	2	3	4	5	6			E	C	B		E	C	B		E	C	B	
CD PLAY	0	0.7	0	0	0.7	0			2.0	2.0	0		16.0	-2.9	16.0		14.0	9.6	14.6	
STANDBY	0	0.1	0	0	0.1	0			0	0.1	0		0.4	0.1	0.4		1.3	0.2	1.3	
Ref No.	Q2804				Q2805				Q2806				Q2807				Q2808			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	8.9	14.0	9.5		4.4	5.4	4.9		6.0	5.0	5.4		-6.7	-14.5	-7.3		0	-7.3	0	
STANDBY	0	1.3	0.4		0	0.1	0		0.2	0.1	0		0.1	-0.3	-0.3		0	-0.3	0.1	
Ref No.	Q2809				Q2811				Q2812				Q2813				Q2814			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-27.5	-27.5	-27.5		15.5	9.6	16.0		9.0	15.4	9.5		9.5	5.6	5.0		7.0	15.9	7.5	
STANDBY	0	0	0		0.2	0.2	0.4		0	0.2	0.4		2.5	0.2	0.2		0.2	0.4	0.4	
Ref No.	Q2818																			
MODE	E	C	B																	
CD PLAY	0	4.6	-2.9																	
STANDBY	0	0.6	0.1																	

18.3. FL P.C.B.

Ref No.	IC6901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-26.5	-26.5	3.2	0	1.8	1.8	4.3	4.6	4.5	0.2	-26.5	-26.5	-26.5	-24.0	-27.0	-21.0	-21.0	-23.9	-23.9	-23.9
STANDBY	0	0	0	0	1.0	1.0	2.0	0	0	0	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Ref No.	IC6901																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-15.7	-23.9	-23.9	-23.9	-26.5	-23.9	-26.5	-26.5	-23.9	-21.8	-18.4	-26.5	-23.9	-23.9	-23.9	-26.5	-15.6	-18.4	-18.4	-26.5
STANDBY	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	0	0	0	0	0	0
Ref No.	Q6900				Q6901				Q6902				Q6903				Q6904			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0.1	4.5		0	8.0	0		0	8.0	0		0	8.0	0		0	8.0	0	
STANDBY	0	1.7	0		0	2.1	0		0	2.0	0		0	2.0	0		0	1.9	0	
Ref No.	Q6909																			
MODE	E	C	B																	
CD PLAY	0	8.2	0																	
STANDBY	0	1.9	0																	

18.4. Loading Motor P.C.B., Tray Motor P.C.B., Sensor P.C.B.

Loading Motor P.C.B.

Ref No.	Q9001																			
MODE	1	2	3	4																
CD PLAY	1.2	4.5	0	0																
STANDBY	0.2	4.8	0	0																

Tray Motor P.C.B.

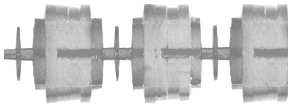
Ref No.	Q9101					Q9102														
MODE	1	2	3	4		1	2	3	4											
CD PLAY	1.2	0	4.7	0		2.5	1.2	0.1	0											
STANDBY	0.1	0	4.8	0		0.4	-0.2	4.8	0											

Sensor P.C.B.

Ref No.	Q9103																			
MODE	1	2	3	4																
CD PLAY	3.7	2.5	0	0.2																
STANDBY	0.2	0.4	0	4.7																

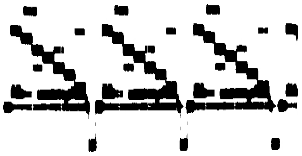
19 Wave Form Chart

WF No. IC2006-2 (PLAY)



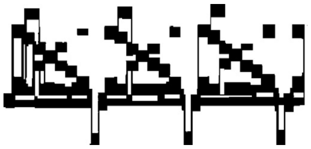
0.8Vp-p(100nsec/div)

WF No. IC2006-4 (PLAY)



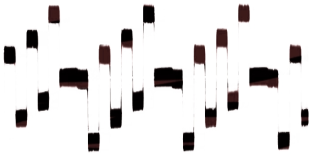
1.1Vp-p(20usec/div)

WF No. IC2006-6 (PLAY)



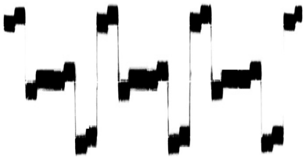
1.1Vp-p(20usec/div)

WF No. IC2006-8 (PLAY)



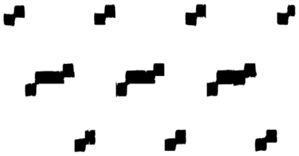
0.6Vp-p(20usec/div)

WF No. IC2006-9 (PLAY)



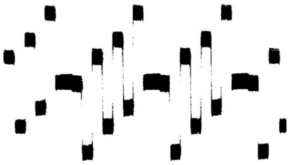
0.6Vp-p(20usec/div)

WF No. IC2006-11 (PLAY)



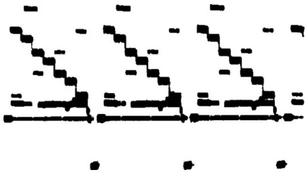
1.0Vp-p(20usec/div)

WF No. IC2006-12 (PLAY)



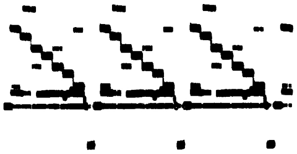
1.0Vp-p(20usec/div)

WF No. IC2006-13 (PLAY)



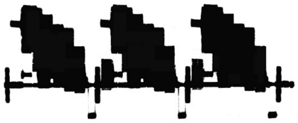
2.1Vp-p(20usec/div)

WF No. IC2006-14 (PLAY)



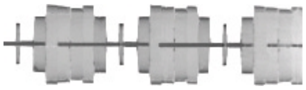
2.1Vp-p(20usec/div)

WF No. IC2006-15 (PLAY)



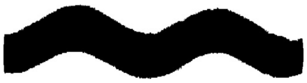
2.1Vp-p(20usec/div)

WF No. IC2006-16 (PLAY)



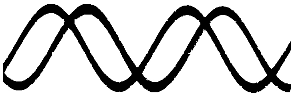
1.2Vp-p(2msec/div)

WF No. IC2011-17 (PLAY)



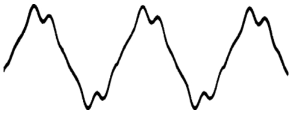
0.03Vp-p(200usec/div)

WF No. IC2011-18 (PLAY)



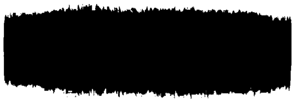
0.13Vp-p(200usec/div)

WF No. IC2011-28 (PLAY)



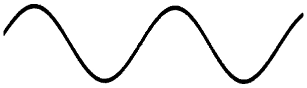
0.8Vp-p(5msec/div)

WF No. IC2011-39 (PLAY)



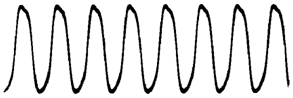
0.1Vp-p(200usec/div)

WF No. IC2013-1 (PLAY)



2.2Vp-p(200usec/div)

WF No. IC2018-12 (PLAY)



4.5Vp-p(100nsec/div)

20 Schematic Diagram Notes

- **This schematic diagram may be modified at any time with the development of new technology.**

Notes:

S6801:	Play and memory switch (▶ Memory).
S6802:	R. skip, search and Tuning switch (⏮ / ◀◀ / TUNING ∨).
S6803:	F. skip, search and Tuning switch (⏭ / ▶▶ / TUNING ∧).
S6804:	Pause and FM mode switch (❚❚ FM MODE).
S6805:	Tray open / close switch (⏏ Open / Close).
S6806:	Disc exchange switch (DISC EXCHANGE).
S6807:	Disc skip switch (DISC SKIP).
S6808:	Stop and TUNE mode switch (■ TUNE MODE).
S6900:	Standby / on switch (POWER ⏻/I).
S6901:	Source select switch (INPUT SELECTOR).
S6902-S6906:	Disc switch (DISC1-DISC5).
S6907:	Harmonic bass switch (H.BASS).
S6909:	Progressive out switch (PROGRESSIVE).
S6910:	CD mode switch [CD MODE].
S9001:	Loading switch.
VR6800:	Volume control.

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on theinternal impedance of the DC circuit tester.
- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

  When replacing any of components, be sure to use only manufacturer´s specified parts shown in the parts list.
- The supply part number is described alone in the replacement parts list.
- Voltage and signal line

—▶—	: +B Signal line
⊠⊠▶	: CD-DA signal line
▥⇨	: Main signal line
▣▣⇨	: DVD (Video) signal line
⊠⊠⇨	: DVD (Audio) signal line
⇨	: FM/AM signal line
▬▶▬	: -B Signal line

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

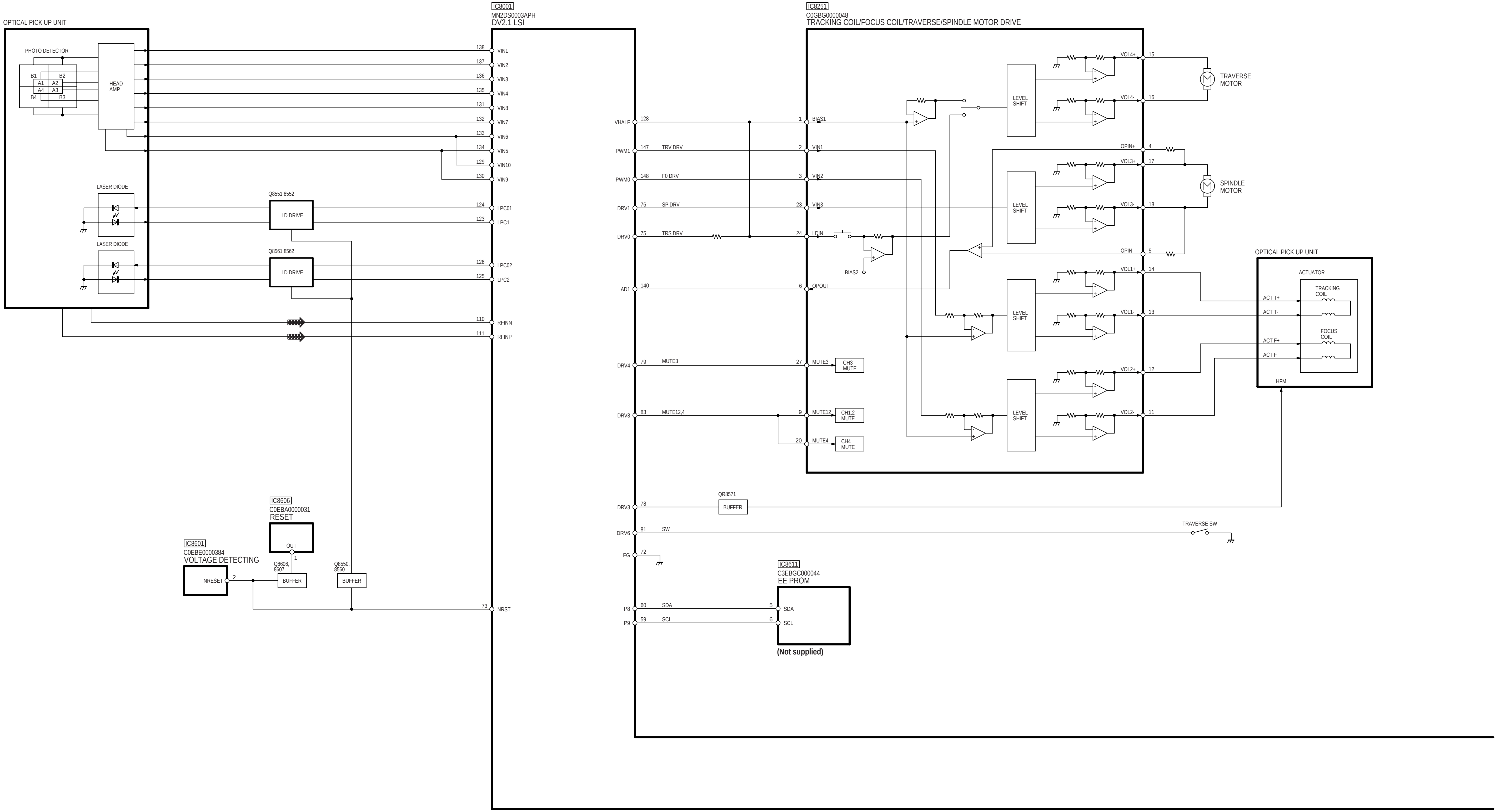
Do not touch the legs of IC or LSI with the fingers directly.

FUSE CAUTION

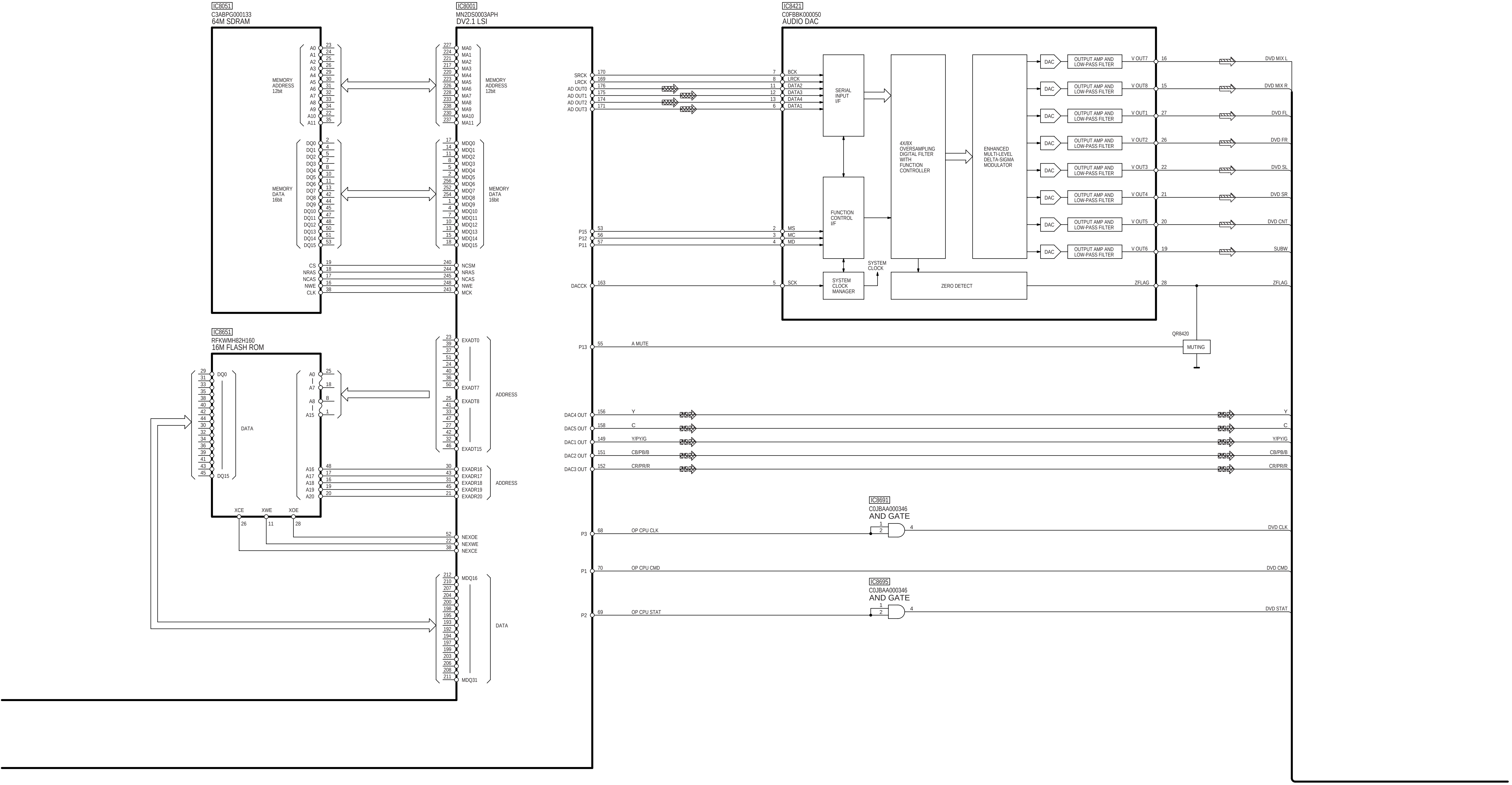
-▮▭- These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

-▮▭- Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

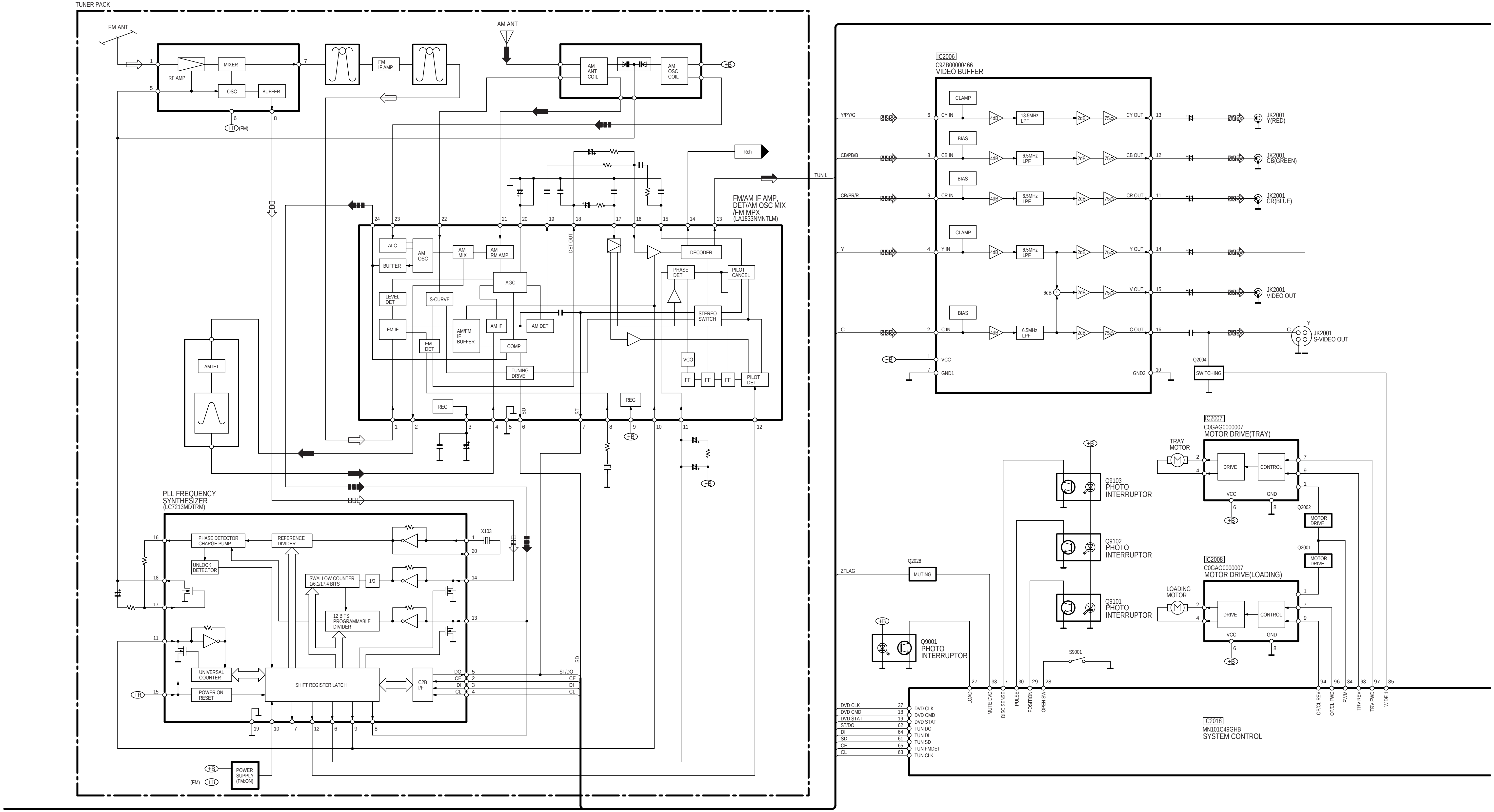
21 Block Diagram


OPTICAL PICK UP UNIT
PHOTO DETECTOR
B1
B2
A1
A2
A4
A3
B4
B3
HEAD AMP
LASER DIODE
LASER DIODE
Q8551,8552
LD DRIVE
Q8561,8562
LD DRIVE
IC8001
MN2DS0003APH
DV2.1 LSI
138 VIN1
137 VIN2
136 VIN3
135 VIN4
131 VIN8
132 VIN7
133 VIN6
134 VIN5
129 VIN10
130 VIN9
124 LPC01
123 LPC1
126 LPC02
125 LPC2
110 RFINN
111 RFINP
73 NRST
VHALF 128
PWM1 147 TRV DRV
PWM0 148 F0 DRV
DRV1 76 SP DRV
DRV0 75 TRS DRV
AD1 140
DRV4 79 MUTE3
DRV8 83 MUTE12,4
DRV3 78
DRV6 81 SW
FG 72
P8 60 SDA
P9 59 SCL
IC8251
C0GBG0000048
TRACKING COIL/FOCUS COIL/TRAVERSE/SPINDLE MOTOR DRIVE
1 BIAS1
2 VIN1
3 VIN2
23 VIN3
24 LDIN
BIAS2
6 OPOUT
27 MUTE3
CH3 MUTE
9 MUTE12
CH1,2 MUTE
20 MUTE4
CH4 MUTE
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
VOL4+ 15
VOL4- 16
OPIN+ 4
VOL3+ 17
VOL3- 18
OPIN- 5
VOL1+ 14
VOL1- 13
VOL2+ 12
VOL2- 11
TRAVERSE MOTOR
SPINDLE MOTOR
OPTICAL PICK UP UNIT
ACTUATOR
TRACKING COIL
FOCUS COIL
ACT T+
ACT T-
ACT F+
ACT F-
HFM
QR8571
BUFFER
TRAVERSE SW
IC8606
C0EBA0000031
RESET
OUT
1
IC8601
C0EBE0000384
VOLTAGE DETECTING
NRESET
2
Q8606, 8607
BUFFER
Q8550, 8560
BUFFER
IC8611
C3EBGC000044
EE PROM
5 SDA
6 SCL
(Not supplied)

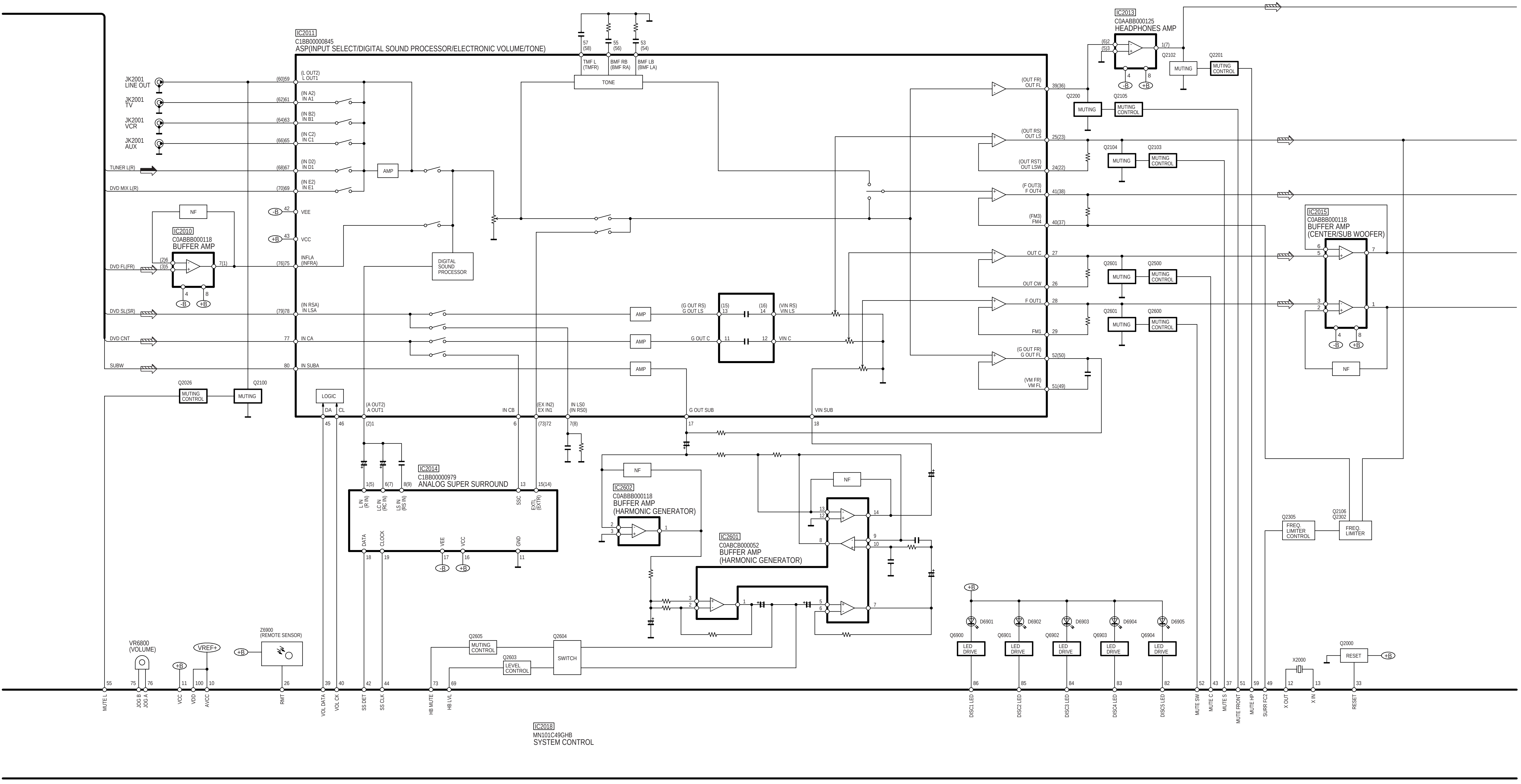
SA-HT930P/PC/PX BLOCK DIAGRAM


IC8051
C3ABPG000133
64M SDRAM
MEMORY ADDRESS 12bit
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
MEMORY DATA 16bit
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
DQ8
DQ9
DQ10
DQ11
DQ12
DQ13
DQ14
DQ15
CS
NRAS
NCAS
NWE
CLK
IC8001
MN2DS0003APH
DV2.1 LSI
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8
MA9
MA10
MA11
MEMORY ADDRESS 12bit
MDQ0
MDQ1
MDQ2
MDQ3
MDQ4
MDQ5
MDQ6
MDQ7
MDQ8
MDQ9
MDQ10
MDQ11
MDQ12
MDQ13
MDQ14
MDQ15
MEMORY DATA 16bit
NCSM
NRAS
NCAS
NWE
MCK
SRCK
LRCK
AD OUT0
AD OUT1
AD OUT2
P15
P12
P11
DACCK
P13
A MUTE
DAC4 OUT
DAC5 OUT
DAC1 OUT
DAC2 OUT
DAC3 OUT
Y
C
Y/PY/G
CB/PB/B
CR/PR/R
P3
OP CPU CLK
P1
OP CPU CMD
P2
OP CPU STAT
IC8651
RFKWMH82H160
16M FLASH ROM
DQ0
DATA
DQ15
A0
A7
A8
A15
A16
A17
A18
A19
A20
XCE
XWE
XOE
EXADT0
EXADT7
EXADT8
EXADT15
ADDRESS
EXADR16
EXADR17
EXADR18
EXADR19
EXADR20
ADDRESS
NEXOE
NEXWE
NEXCE
MDQ16
MDQ31
DATA
IC8421
C0FBBK000050
AUDIO DAC
BCK
LRCK
DATA2
DATA3
DATA4
DATA1
SERIAL INPUT I/F
MS
MC
MD
FUNCTION CONTROL I/F
SCK
SYSTEM CLOCK MANAGER
SYSTEM CLOCK
4X/8X OVERSAMPLING DIGITAL FILTER WITH FUNCTION CONTROLLER
ENHANCED MULTI-LEVEL DELTA-SIGMA MODULATOR
DAC
OUTPUT AMP AND LOW-PASS FILTER
ZERO DETECT
V OUT7
V OUT8
V OUT1
V OUT2
V OUT3
V OUT4
V OUT5
V OUT6
ZFLAG
DVD MIX L
DVD MIX R
DVD FL
DVD FR
DVD SL
DVD SR
DVD CNT
SUBW
ZFLAG
QR8420
MUTING
IC8691
C0JBAA000346
AND GATE
DVD CLK
DVD CMD
IC8695
C0JBAA000346
AND GATE
DVD STAT

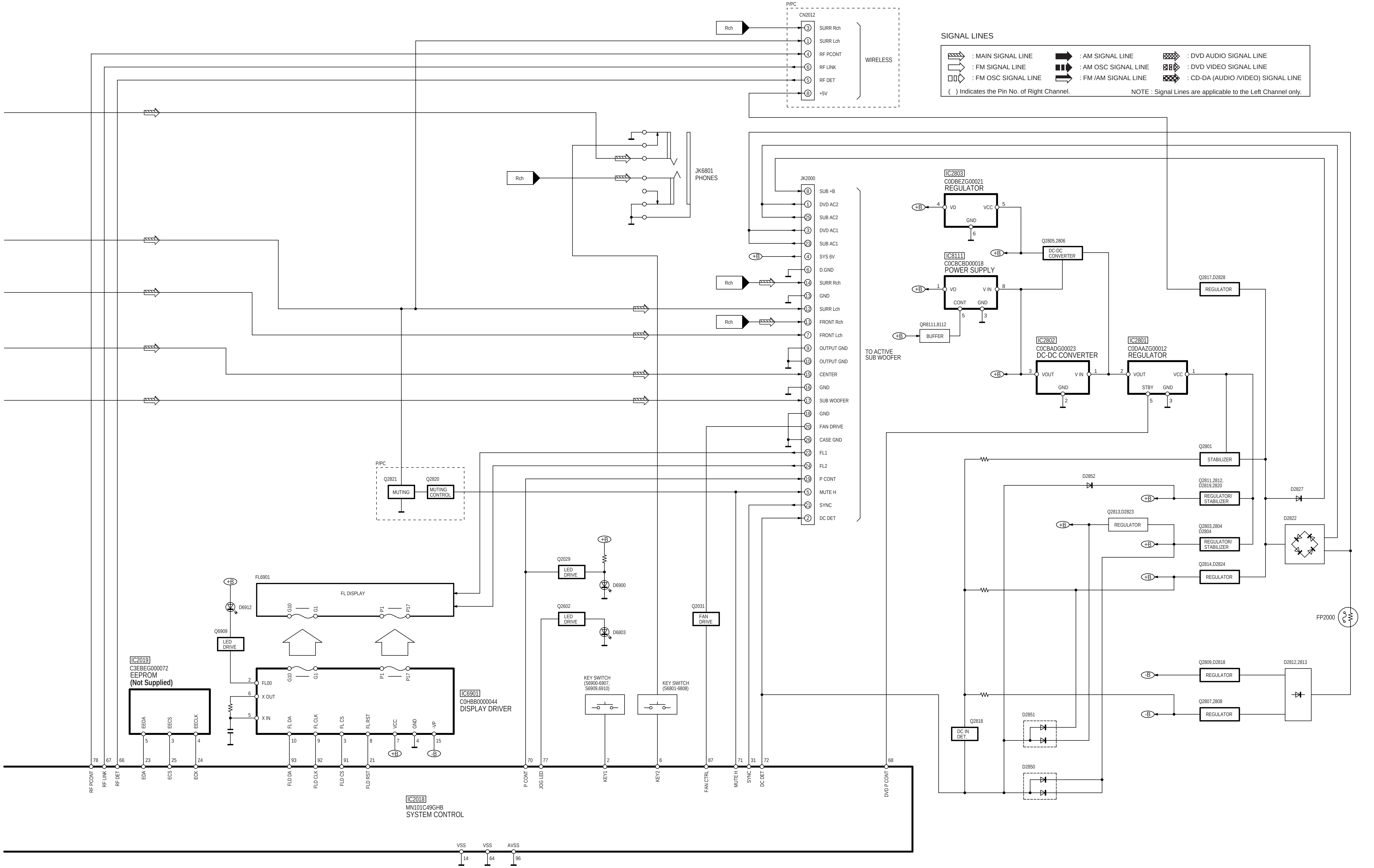
SA-HT930P/PC/PX BLOCK DIAGRAM


TUNER PACK
FM ANT
RF AMP
MIXER
OSC
BUFFER
(FM)
FM IF AMP
AM ANT
AM ANT COIL
AM OSC COIL
Rch
TUN L
FM/AM IF AMP, DET/AM OSC MIX /FM MPX
(LA1833NMNTLM)
ALC
AM OSC
BUFFER
AM MIX
AM RM AMP
AGC
LEVEL DET
S-CURVE
FM IF
AM/FM IF BUFFER
AM IF
AM DET
FM DET
COMP
TUNING DRIVE
DET OUT
DECODER
PHASE DET
PILOT CANCEL
STEREO SWITCH
VCO
FF
PILOT DET
REG
SD
ST
AM IFT
PLL FREQUENCY SYNTHESIZER
(LC7213MDTRM)
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
X103
UNLOCK DETECTOR
SWALLOW COUNTER 1/6,1/17,4 BITS
1/2
12 BITS PROGRAMMABLE DIVIDER
UNIVERSAL COUNTER
POWER ON RESET
SHIFT REGISTER LATCH
C2B I/F
DO
CE
DI
CL
ST/DO
POWER SUPPLY (FM:ON)
IC2006
C9ZB00000466
VIDEO BUFFER
Y/PY/G
CB/PB/B
CR/PR/R
Y
C
CLAMP
BIAS
CY IN
CB IN
CR IN
Y IN
C IN
VCC
GND1
GND2
4dB
13.5MHz LPF
6.5MHz LPF
2dB
75Ω
-6dB
CY OUT
CB OUT
CR OUT
Y OUT
V OUT
C OUT
JK2001 Y(RED)
JK2001 CB(GREEN)
JK2001 CR(BLUE)
JK2001 VIDEO OUT
JK2001 S-VIDEO OUT
Q2004
SWITCHING
IC2007
C0GAG0000007
MOTOR DRIVE(TRAY)
TRAY MOTOR
DRIVE
CONTROL
GND
Q2002
MOTOR DRIVE
Q2001
IC2008
C0GAG0000007
MOTOR DRIVE(LOADING)
LOADING MOTOR
Q9103 PHOTO INTERRUPTOR
Q9102 PHOTO INTERRUPTOR
Q9101 PHOTO INTERRUPTOR
Q9001 PHOTO INTERRUPTOR
S9001
ZFLAG
Q2028
MUTING
LOAD
MUTE DVD
DISC SENSE
PULSE
POSITION
OPEN SW
OP/CL REV
OP/CL FWD
PWM
TRV REV
TRV FWD
WIDE 1
DVD CLK
DVD CMD
DVD STAT
ST/DO
DI
SD
CE
CL
TUN DO
TUN DI
TUN SD
TUN FMDET
TUN CLK
IC2018
MN101C49GHB
SYSTEM CONTROL
+B

SA-HT930P/PC/PX BLOCK DIAGRAM


IC2011
C1BB00000845
ASP(INPUT SELECT/DIGITAL SOUND PROCESSOR/ELECTRONIC VOLUME/TONE)
JK2001 LINE OUT
JK2001 TV
JK2001 VCR
JK2001 AUX
TUNER L(R)
DVD MIX L(R)
DVD FL(FR)
DVD SL(SR)
DVD CNT
SUBW
(60)59
(L OUT2) L OUT1
(62)61
(IN A2) IN A1
(64)63
(IN B2) IN B1
(66)65
(IN C2) IN C1
(68)67
(IN D2) IN D1
(70)69
(IN E2) IN E1
42
-B
VEE
43
+B
VCC
(76)75
INFLA (INFRA)
(79)78
(IN RSA) IN LSA
77
IN CA
80
IN SUBA
AMP
DIGITAL SOUND PROCESSOR
NF
IC2010
C0ABBB000118
BUFFER AMP
(2)6
(3)5
7(1)
4
8
-B
+B
Q2026
MUTING CONTROL
Q2100
MUTING
LOGIC
DA
CL
45
46
(A OUT2) A OUT1
(2)1
IN CB
6
(EX IN2) EX IN1
(73)72
IN LS0 (IN RS0)
7(8)
G OUT SUB
17
VIN SUB
18
57 (58)
55 (56)
53 (54)
TMF L (TMFR)
BMF RB (BMF RA)
BMF LB (BMF LA)
TONE
AMP
AMP
AMP
(G OUT RS) G OUT LS
(15) 13
(16) 14
(VIN RS) VIN LS
G OUT C
11
12
VIN C
(OUT FR) OUT FL
39(36)
(OUT RS) OUT LS
25(23)
(OUT RST) OUT LSW
24(22)
(F OUT3) F OUT4
41(38)
(FM3) FM4
40(37)
OUT C
27
OUT CW
26
F OUT1
28
FM1
29
(G OUT FR) G OUT FL
52(50)
(VM FR) VM FL
51(49)
IC2013
C0AABB000125
HEADPHONES AMP
(6)2
(5)3
1(7)
4
8
-B
+B
Q2102
MUTING
Q2201
MUTING CONTROL
Q2200
MUTING
Q2105
MUTING CONTROL
Q2104
MUTING
Q2103
MUTING CONTROL
Q2601
MUTING
Q2500
MUTING CONTROL
Q2601
MUTING
Q2600
MUTING CONTROL
IC2015
C0ABBB000118
BUFFER AMP
(CENTER/SUB WOOFER)
6
5
7
3
2
1
4
8
-B
+B
NF
IC2014
C1BB00000979
ANALOG SUPER SURROUND
1(5)
6(7)
8(9)
13
15(14)
L IN (R IN)
LC IN (RC IN)
LS IN (RS IN)
SSC
EXTL (EXTR)
DATA
CLOCK
VEE
VCC
GND
18
19
17
16
11
-B
+B
NF
IC2602
C0ABBB000118
BUFFER AMP
(HARMONIC GENERATOR)
2
3
1
IC2601
C0ABCB000052
BUFFER AMP
(HARMONIC GENERATOR)
NF
13
12
14
8
9
10
3
2
1
5
6
7
+B
D6901
D6902
D6903
D6904
D6905
Q6900
Q6901
Q6902
Q6903
Q6904
LED DRIVE
LED DRIVE
LED DRIVE
LED DRIVE
LED DRIVE
Q2305
FREQ. LIMITER CONTROL
Q2106
Q2302
FREQ. LIMITER
Q2000
RESET
+B
X2000
VR6800 (VOLUME)
+B
VREF+
+B
Z6900 (REMOTE SENSOR)
Q2605
MUTING CONTROL
Q2603
LEVEL CONTROL
Q2604
SWITCH
55
75
76
11
100
10
26
39
40
42
44
73
69
86
85
84
83
82
52
43
37
51
59
49
12
13
33
MUTE L
JOG B
JOG A
VCC
VDD
AVCC
RMT
VOL DATA
VOL CK
SS DET
SS CLK
HB MUTE
HB LVL
DISC1 LED
DISC2 LED
DISC3 LED
DISC4 LED
DISC5 LED
MUTE SW
MUTE C
MUTE S
MUTE FRONT
MUTE HP
SURR FC2
X OUT
X IN
RESET
IC2018
MN101C49GHB
SYSTEM CONTROL

SA-HT930P/PC/PX BLOCK DIAGRAM


P/PC
CN2012
Rch
SURR Rch
SURR Lch
RF PCONT
RF LINK
RF DET
+5V
WIRELESS
SIGNAL LINES
: MAIN SIGNAL LINE
: FM SIGNAL LINE
: FM OSC SIGNAL LINE
: AM SIGNAL LINE
: AM OSC SIGNAL LINE
: FM /AM SIGNAL LINE
: DVD AUDIO SIGNAL LINE
: DVD VIDEO SIGNAL LINE
: CD-DA (AUDIO /VIDEO) SIGNAL LINE
( ) Indicates the Pin No. of Right Channel.
NOTE : Signal Lines are applicable to the Left Channel only.
JK6801
PHONES
JK2000
SUB +B
DVD AC2
SUB AC2
DVD AC1
SUB AC1
SYS 6V
D.GND
SURR Rch
GND
SURR Lch
FRONT Rch
FRONT Lch
OUTPUT GND
OUTPUT GND
CENTER
GND
SUB WOOFER
GND
FAN DRIVE
CASE GND
FL1
FL2
P CONT
MUTE H
SYNC
DC DET
TO ACTIVE
SUB WOOFER
IC2803
C0DBEZG00021
REGULATOR
VD
VCC
GND
IC8111
C0CBCBD00018
POWER SUPPLY
VO
V IN
CONT
GND
QR8111,8112
BUFFER
Q2805,2806
DC-DC CONVERTER
IC2802
C0CBADG00023
DC-DC CONVERTER
VOUT
V IN
GND
IC2801
C0DAAZG00012
REGULATOR
VOUT
VCC
STBY
GND
Q2817,D2828
REGULATOR
Q2801
STABILIZER
D2852
Q2811,2812,
D2819,2820
REGULATOR/
STABILIZER
D2827
Q2813,D2823
REGULATOR
Q2803,2804
D2804
REGULATOR/
STABILIZER
D2822
Q2814,D2824
REGULATOR
FP2000
Q2809,D2818
REGULATOR
D2812,2813
Q2807,2808
REGULATOR
Q2818
DC IN
DET.
D2851
D2850
+B
-B
P/PC
Q2821
MUTING
Q2820
MUTING
CONTROL
Q2029
LED
DRIVE
D6900
Q2602
LED
DRIVE
D6803
Q2031
FAN
DRIVE
FL6901
FL DISPLAY
G10
G1
P1
P17
D6912
Q6909
LED
DRIVE
IC2019
C3EBEG000072
EEPROM
(Not Supplied)
EEDA
EECS
EECLK
IC6901
C0HBB0000044
DISPLAY DRIVER
FL00
X OUT
X IN
FLD DA
FLD CLK
FLD CS
FL RST
VCC
GND
-VP
KEY SWITCH
(S6900-6907,
S6909,6910)
KEY SWITCH
(S6801-6808)
RF PCONT
RF LINK
RF DET
EDA
ECS
ECK
FLD DA
FLD CLK
FLD CS
FLD RST
P CONT
JOG LED
KEY1
KEY2
FAN CTRL
MUTE H
SYNC
DC DET
DVD P CONT
IC2018
MN101C49GHB
SYSTEM CONTROL
VSS
VSS
AVSS

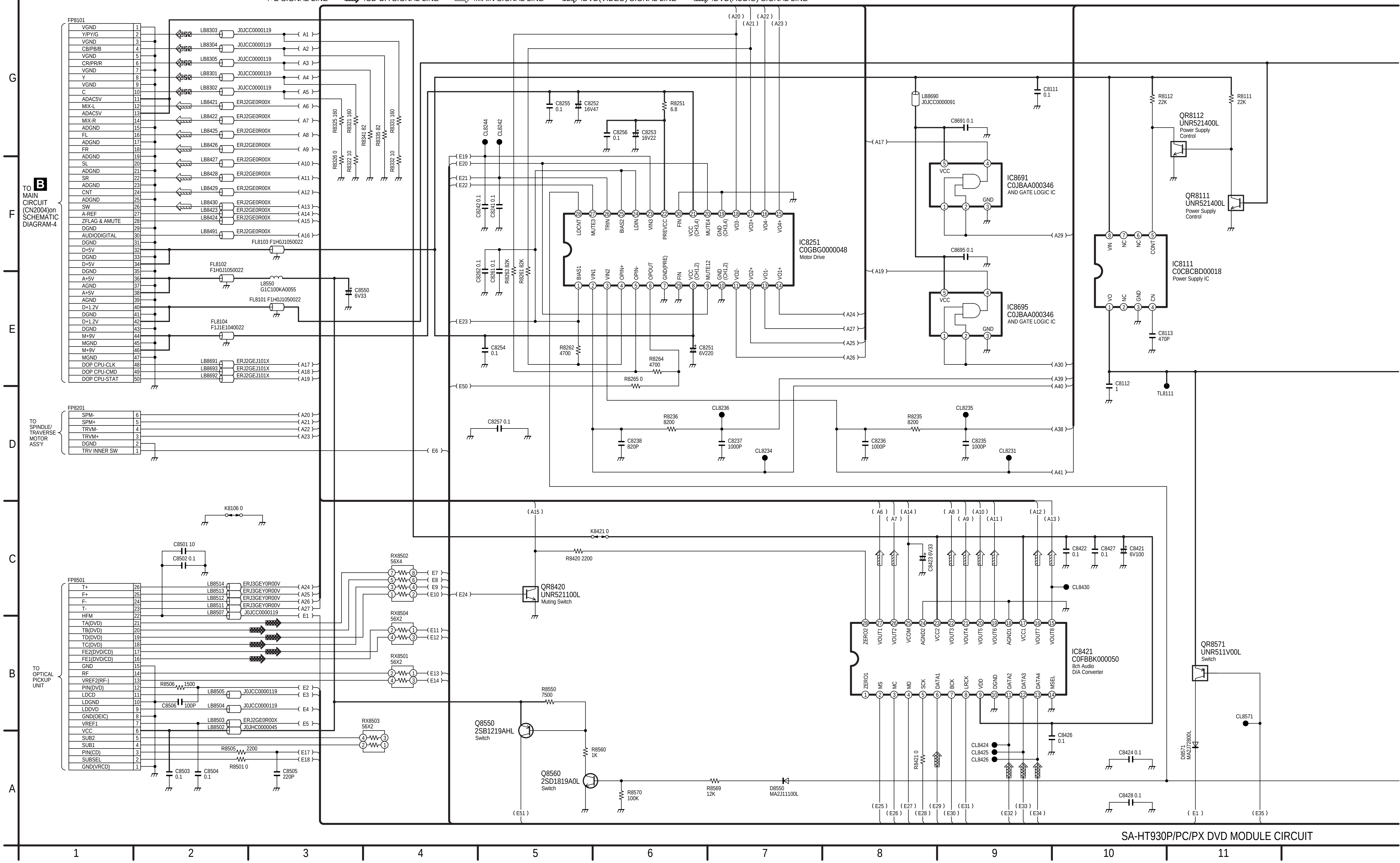
SA-HT930P/PC/PX BLOCK DIAGRAM

22 Schematic Diagram

SCHEMATIC DIAGRAM-1

A DVD MODULE CIRCUIT

—— :+B SIGNAL LINE ▨ :CD-DA SIGNAL LINE ⇨ :MAIN SIGNAL LINE ▨ :DVD(VIDEO) SIGNAL LINE ▨ :DVD(AUDIO) SIGNAL LINE

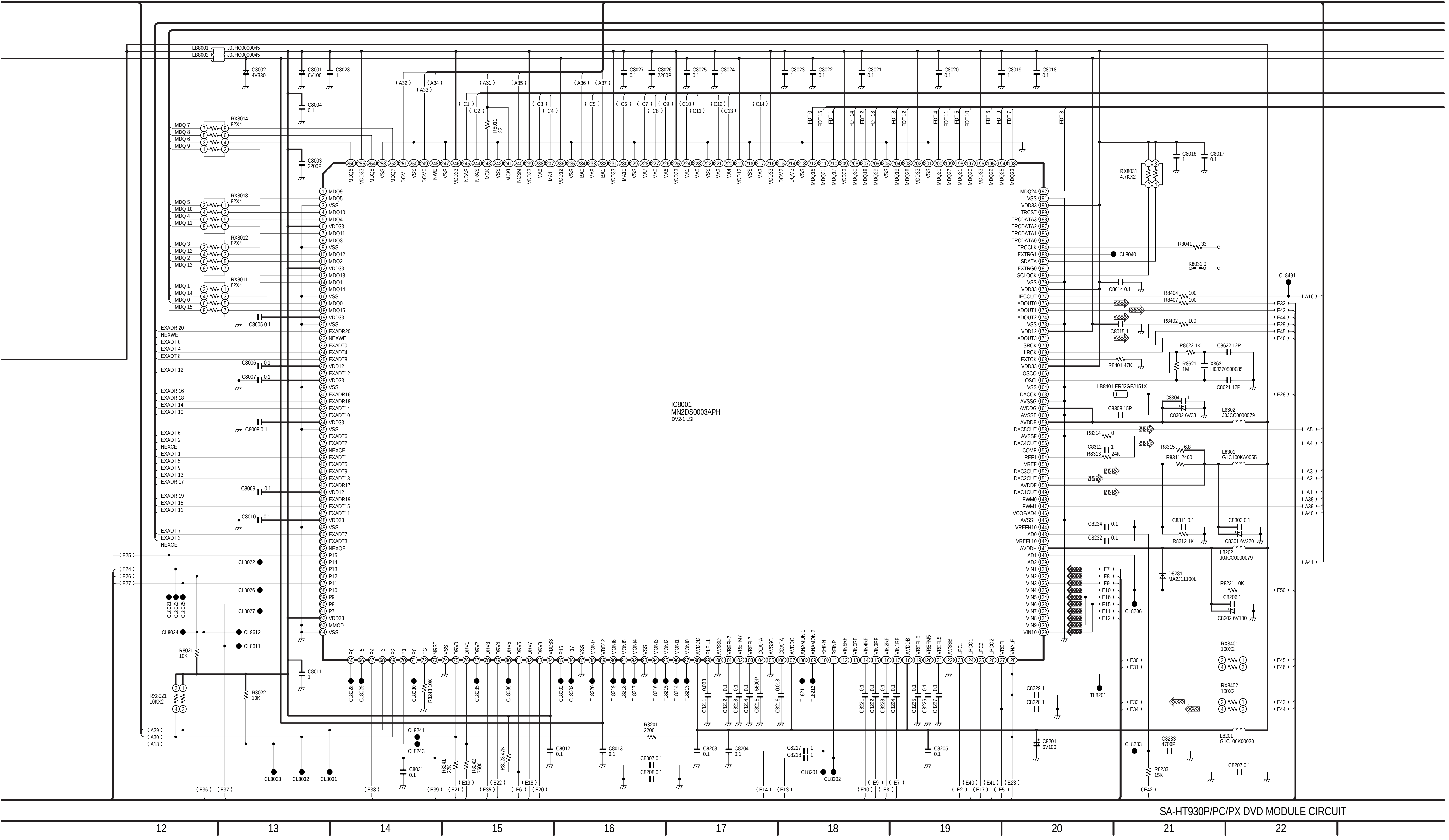

FP8101
VGND
Y/PY/G
CB/PB/B
CR/PR/R
Y
C
ADAC5V
MIX-L
MIX-R
ADGND
FL
FR
SL
SR
CNT
SW
A-REF
ZFLAG & AMUTE
AUDIODIGITAL
DGND
D+5V
A+5V
AGND
D+1.2V
M+9V
MGND
DOP CPU-CLK
DOP CPU-CMD
DOP CPU-STAT
TO B MAIN CIRCUIT (CN2004)on SCHEMATIC DIAGRAM-4
LB8303
LB8304
LB8305
LB8301
LB8302
J0JCC0000119
LB8421
LB8422
LB8425
LB8426
LB8427
LB8428
LB8429
LB8430
LB8423
LB8424
LB8491
ERJ2GE0R00X
FL8103 F1H0J1050022
FL8102 F1H0J1050022
L8550 G1C100KA0055
C8550 6V33
FL8101 F1H0J1050022
FL8104 F1J1E1040022
LB8691
LB8693
LB8692
ERJ2GEJ101X
FP8201
SPM-
SPM+
TRVM-
TRVM+
DGND
TRV INNER SW
TO SPINDLE/ TRAVERSE MOTOR ASS'Y
K8106 0
C8501 10
C8502 0.1
FP8501
T+
F+
F-
T-
HFM
TA(DVD)
TB(DVD)
TD(DVD)
TC(DVD)
FE2(DVD/CD)
FE1(DVD/CD)
GND
RF
VREF2(RF-)
PIN(DVD)
LDCD
LDGND
LDDVD
GND(OEIC)
VREF1
VCC
SUB2
SUB1
PIN(CD)
SUBSEL
GND(VRCD)
TO OPTICAL PICKUP UNIT
LB8514
LB8513
LB8512
LB8511
LB8507
ERJ3GEY0R00V
R8506 1500
C8506 100P
LB8505
LB8504
LB8503
LB8502
ERJ2GE0R00X
J0JHC0000045
R8505 2200
R8501 0
C8503 0.1
C8504 0.1
C8505 220P
RX8502 56X4
RX8504 56X2
RX8501 56X2
RX8503 56X2
R8325 160
R8321 160
R8341 82
R8335 82
R8331 160
R8326 0
R8322 10
R8332 10
CL8244
CL8242
C8242 0.1
C8241 0.1
C8262 0.1
C8261 0.1
R8263 82K
R8261 82K
C8255 0.1
C8252 16V47
C8256 0.1
C8253 16V22
R8251 6.8
IC8251
C0GBG0000048
Motor Drive
LDCNT
MUTE3
TRIN
BIAS2
LDIN
VIN3
PREVCC
FIN
VCC (CH3,4)
MUTE4
GND (CH3,4)
VO3-
VO3+
VO4-
VO4+
BIAS1
VIN1
VIN2
OPIN+
OPIN-
OPOUT
GND(PRE)
VCC (CH1,2)
MUTE12
GND (CH1,2)
VO2-
VO2+
VO1-
VO1+
C8254 0.1
R8262 4700
R8264 4700
R8265 0
C8251 6V220
C8257 0.1
R8236 8200
CL8236
C8238 820P
C8237 1000P
CL8234
R8235 8200
CL8235
C8236 1000P
C8235 1000P
CL8231
LB8690 J0JCC0000091
C8691 0.1
IC8691
C0JBAA000346
AND GATE LOGIC IC
C8695 0.1
IC8695
C0JBAA000346
AND GATE LOGIC IC
VCC
GND
C8111 0.1
R8112 22K
R8111 22K
QR8112
UNR521400L
Power Supply Control
QR8111
UNR521400L
Power Supply Control
IC8111
C0CBCBD00018
Power Supply IC
VIN
NC
CONT
VO
GND
CN
C8113 470P
C8112 1
TL8111
K8421 0
R8420 2200
QR8420
UNR521100L
Muting Switch
R8550 7500
Q8550
2SB1219AHL
Switch
R8560 1K
Q8560
2SD1819A0L
Switch
R8570 100K
R8569 12K
D8550 MA2J11100L
C8423 6V33
C8422 0.1
C8427 0.1
C8421 6V100
CL8430
IC8421
C0FBBK000050
8ch Audio D/A Converter
ZERO2
VOUT1
VOUT2
VCOM
AGND2
VCC2
VOUT3
VOUT4
VOUT5
VOUT6
AGND1
VCC1
VOUT7
VOUT8
ZERO1
MS
MC
MD
SCK
DATA1
BCK
LRCK
VDD
DGND
DATA2
DATA3
DATA4
MSEL
C8426 0.1
CL8424
CL8425
CL8426
R8421 0
C8424 0.1
C8428 0.1
QR8571
UNR511V00L
Switch
CL8571
D8571 MA2J72800L

SA-HT930P/PC/PX DVD MODULE CIRCUIT

SCHEMATIC DIAGRAM-2

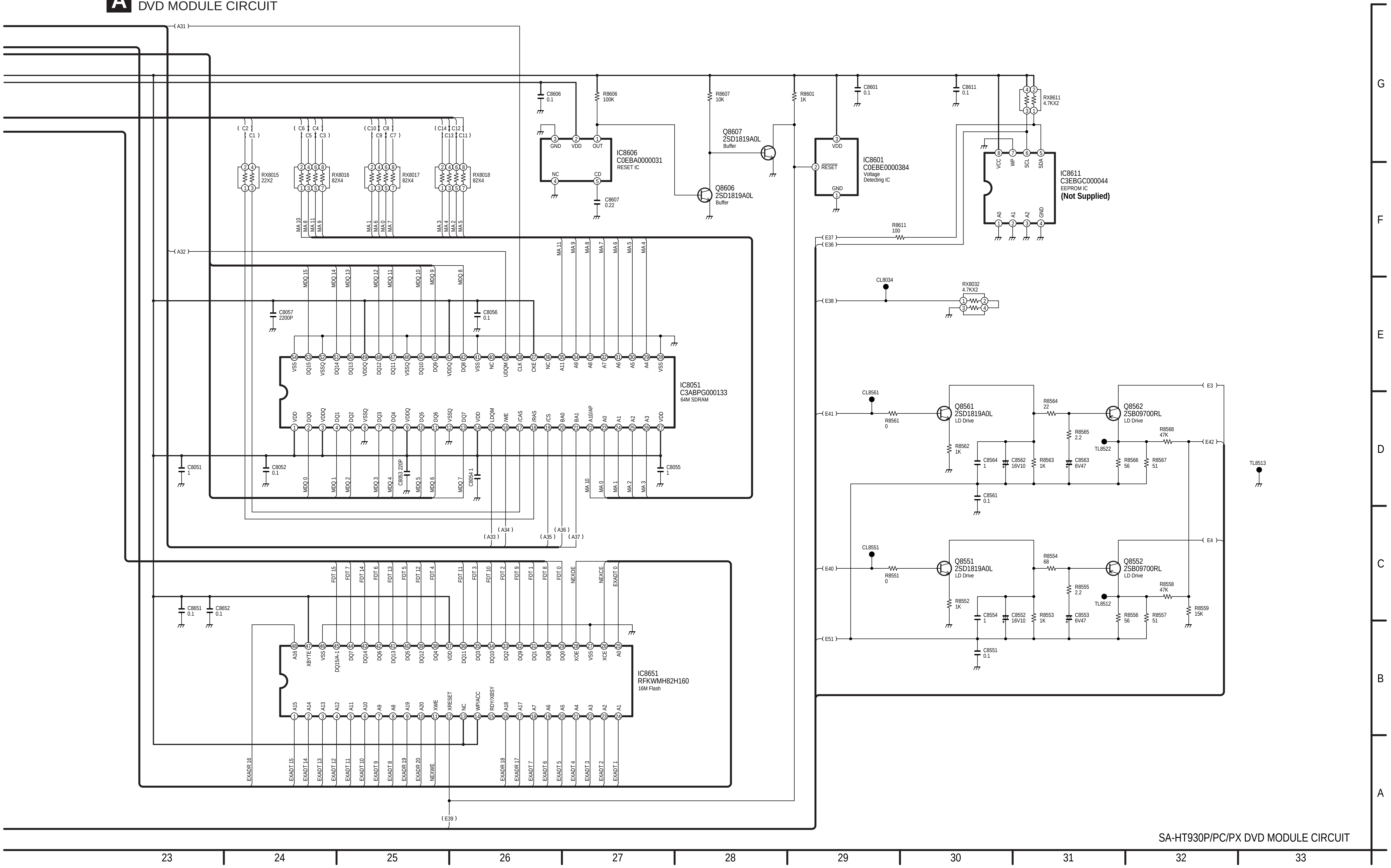
A DVD MODULE CIRCUIT

:+B SIGNAL LINE　▨ :CD-DA SIGNAL LINE　▨ :DVD(VIDEO) SIGNAL LINE　▨ :DVD(AUDIO) SIGNAL LINE


IC8001
MN2DS0003APH
DV2-1 LSI
LB8001 J0JHC0000045
LB8002 J0JHC0000045
C8002 4V330
C8001 6V100
C8028 1
C8004 0.1
C8003 2200P
C8027 0.1
C8026 2200P
C8025 0.1
C8024 1
C8023 1
C8022 0.1
C8021 0.1
C8020 0.1
C8019 1
C8018 0.1
RX8014 82X4
RX8013 82X4
RX8012 82X4
RX8011 82X4
R8011 22
C8005 0.1
C8006 0.1
C8007 0.1
C8008 0.1
C8009 0.1
C8010 0.1
C8011 1
RX8031 4.7KX2
C8016 1
C8017 0.1
R8041 33
K8031 0
CL8040
C8014 0.1
R8404 100
R8407 100
R8402 100
C8015 1
CL8491
R8622 1K
C8622 12P
R8401 47K
R8621 1M
X8621 H0J270500085
C8621 12P
LB8401 ERJ2GEJ151X
C8304 1
C8308 15P
C8302 6V33
L8302 J0JCC0000079
R8314 0
C8312 1
R8313 24K
R8315 6.8
R8311 2400
L8301 G1C100KA0055
C8234 0.1
C8232 0.1
C8311 0.1
R8312 1K
C8303 0.1
C8301 6V220
L8202 J0JCC0000079
D8231 MA2J11100L
R8231 10K
C8206 1
C8202 6V100
CL8206
RX8401 100X2
RX8402 100X2
L8201 G1C100K00020
C8229 1
C8228 1
TL8201
C8201 6V100
CL8233
C8233 4700P
R8233 15K
C8207 0.1
CL8022
CL8026
CL8027
CL8021 CL8023 CL8025
CL8024
CL8612
CL8611
R8021 10K
RX8021 10KX2
R8022 10K
CL8241
CL8243
CL8033 CL8032 CL8031
C8031 0.1
R8241 22K
R8242 7500
R8023 47K
R8243 10K
C8012 0.1
C8013 0.1
R8201 2200
C8307 0.1
C8208 0.1
C8203 0.1
C8204 0.1
C8217 1
C8218 1
CL8201 CL8202
C8205 0.1
C8211 0.033
C8212 0.1
C8213 0.1
C8214 0.1
C8215 5600P
C8216 0.018
C8221 0.1
C8222 0.1
C8223 0.1
C8224 0.1
C8225 0.1
C8226 0.1
C8227 0.1
SA-HT930P/PC/PX DVD MODULE CIRCUIT
12
13
14
15
16
17
18
19
20
21
22

SCHEMATIC DIAGRAM-3

A DVD MODULE CIRCUIT

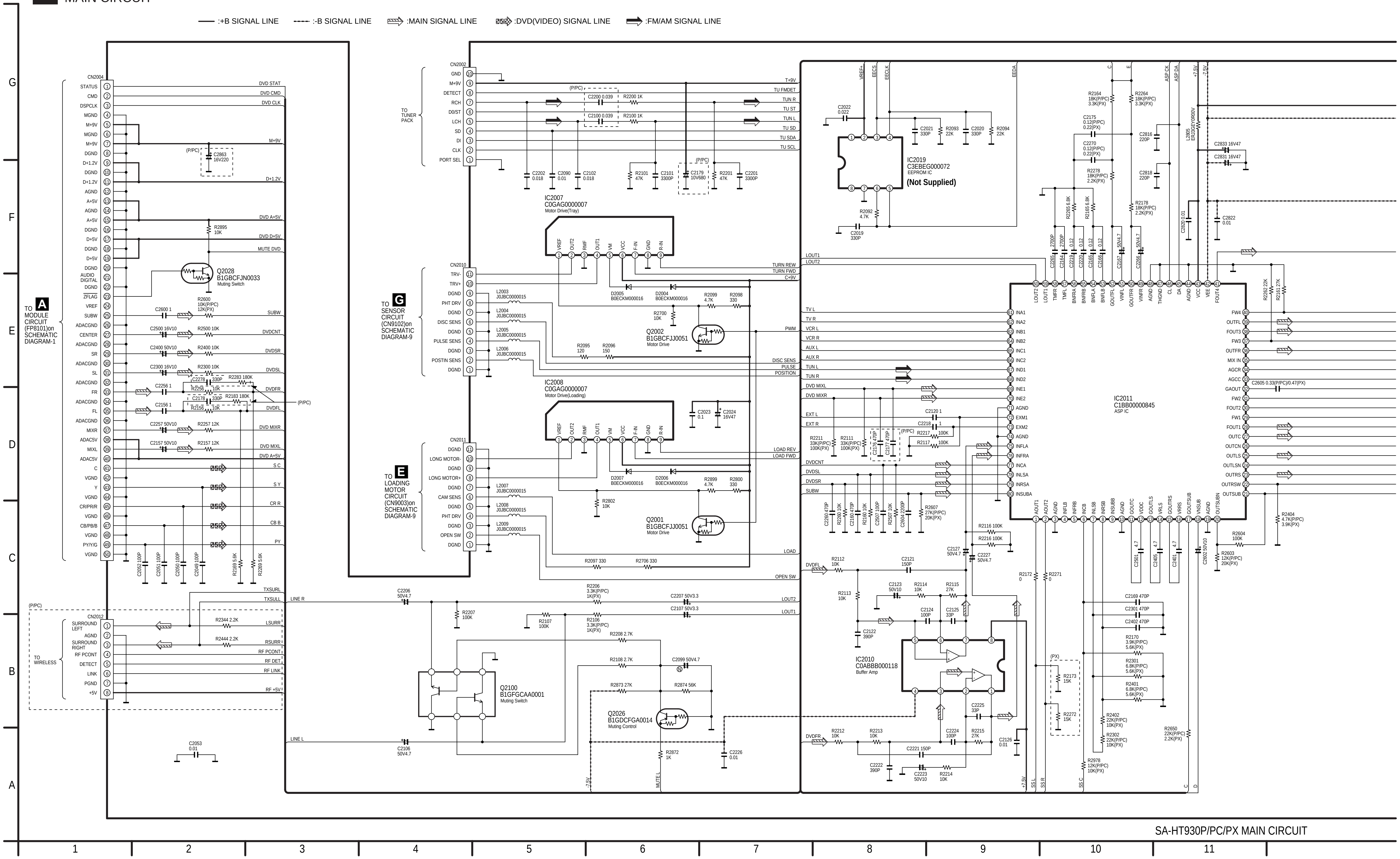

IC8606
C0EBA0000031
RESET IC
C8606 0.1
R8606 100K
C8607 0.22
Q8607
2SD1819A0L
Buffer
Q8606
2SD1819A0L
Buffer
R8607 10K
R8601 1K
IC8601
C0EBE0000384
Voltage Detecting IC
C8601 0.1
C8611 0.1
RX8611 4.7KX2
IC8611
C3EBGC000044
EEPROM IC
(Not Supplied)
R8611 100
CL8034
RX8032 4.7KX2
RX8015 22X2
RX8016 82X4
RX8017 82X4
RX8018 82X4
C8057 2200P
C8056 0.1
IC8051
C3ABPG000133
64M SDRAM
C8051 1
C8052 0.1
C8053 220P
C8054 1
C8055 1
IC8651
RFKWMH82H160
16M Flash
C8651 0.1
C8652 0.1
CL8561
Q8561
2SD1819A0L
LD Drive
R8561 0
R8562 1K
R8564 22
R8565 2.2
Q8562
2SB09700RL
LD Drive
R8568 47K
TL8522
C8564 1
C8562 16V10
R8563 1K
C8563 6V47
R8566 56
R8567 51
C8561 0.1
TL8513
CL8551
Q8551
2SD1819A0L
LD Drive
R8551 0
R8552 1K
R8554 68
R8555 2.2
Q8552
2SB09700RL
LD Drive
R8558 47K
TL8512
C8554 1
C8552 16V10
R8553 1K
C8553 6V47
R8556 56
R8557 51
R8559 15K
C8551 0.1
A31
A32
A33
A34
A35
A36
A37
E3
E4
E36
E37
E38
E39
E40
E41
E42
E51
G
F
E
D
C
B
A
23
24
25
26
27
28
29
30
31
32
33

SA-HT930P/PC/PX DVD MODULE CIRCUIT

SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

—— :+B SIGNAL LINE - - - - :-B SIGNAL LINE ⇨ :MAIN SIGNAL LINE ⇨ :DVD(VIDEO) SIGNAL LINE ➡ :FM/AM SIGNAL LINE

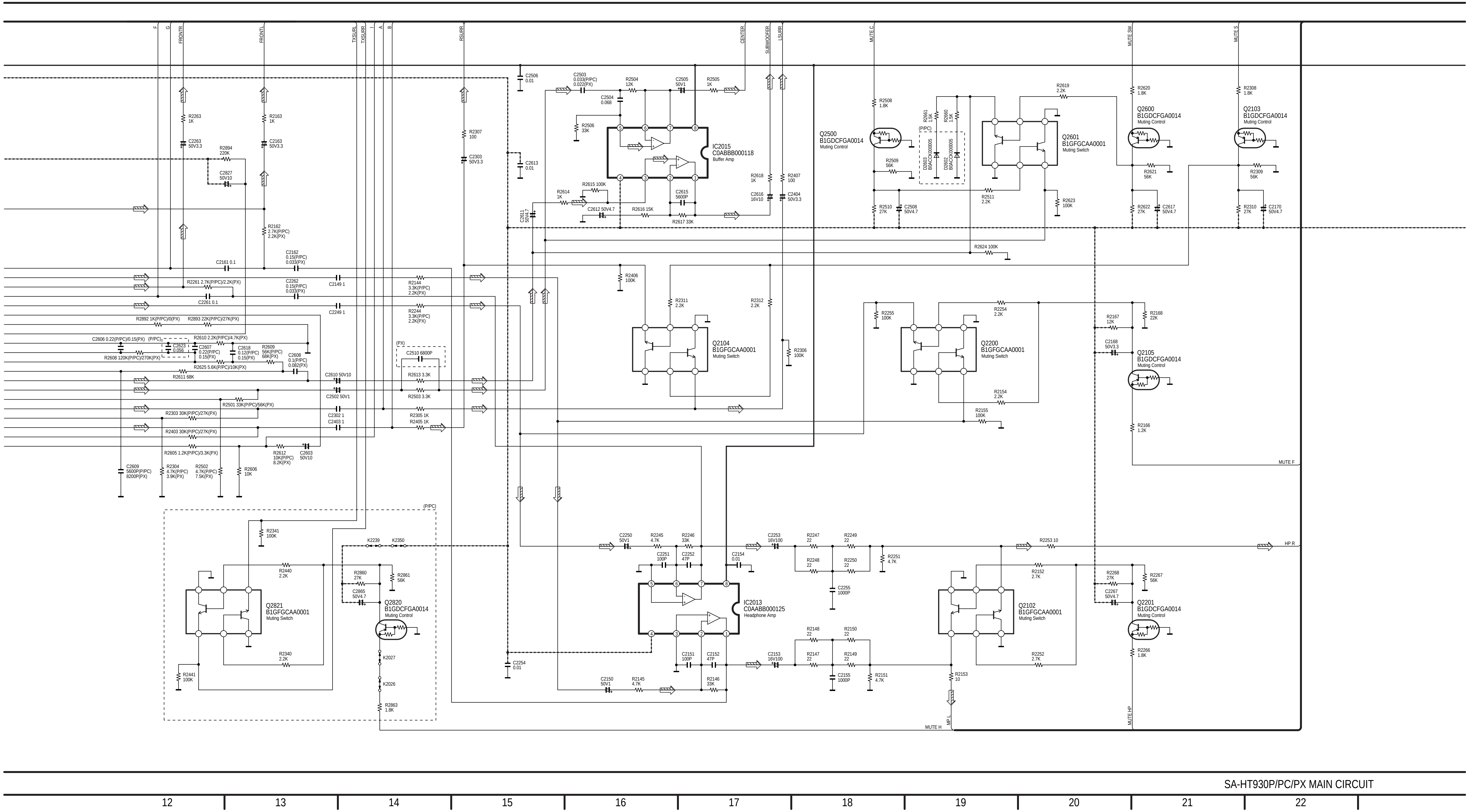


CN2004
TO A MODULE CIRCUIT (FP8101)on SCHEMATIC DIAGRAM-1
STATUS
CMD
DSPCLK
MGND
M+9V
DGND
D+1.2V
AGND
A+5V
D+5V
AUDIO DIGITAL
ZFLAG
VREF
SUBW
ADACGND
CENTER
SR
SL
FR
FL
MIXR
ADACSV
MIXL
ADAC5V
C
VGND
Y
CR/PR/R
CB/PB/B
PY/Y/G
DVD STAT
DVD CMD
DVD CLK
D+1.2V
DVD A+5V
DVD D+5V
MUTE DVD
DVDCNT
DVDSR
DVDSL
DVDFR
DVDFL
DVD MIXR
DVD MIXL
DVD A+5V
S C
S Y
CR R
CB B
PY
Q2028
B1GBCFJN0033
Muting Switch
(P/PC)
CN2012
TO WIRELESS
SURROUND LEFT
SURROUND RIGHT
RF PCONT
DETECT
LINK
PGND
+5V
LSURR
RSURR
RF PCONT
RF DET
RF LINK
RF +5V
TXSURL
TXSULL
LINE R
LINE L
CN2002
TO TUNER PACK
GND
M+9V
DETECT
RCH
D0/ST
LCH
SD
DI
CLK
PORT SEL
T+9V
TU FMDET
TUN R
TU ST
TUN L
TU SD
TU SDA
TU SCL
IC2007
C0GAG0000007
Motor Drive(Tray)
VREF
OUT2
RMF
OUT1
VM
VCC
F-IN
GND
R-IN
CN2010
TO G SENSOR CIRCUIT (CN9102)on SCHEMATIC DIAGRAM-9
TRV-
TRV+
PHT DRV
DISC SENS
PULSE SENS
POSTIN SENS
Q2002
B1GBCFJJ0051
Motor Drive
IC2008
C0GAG0000007
Motor Drive(Loading)
CN2011
TO E LOADING MOTOR CIRCUIT (CN9003)on SCHEMATIC DIAGRAM-9
LONG MOTOR-
LONG MOTOR+
CAM SENS
OPEN SW
Q2001
B1GBCFJJ0051
Motor Drive
TURN REW
TURN FWD
C+9V
PWM
DISC SENS
PULSE
POSITION
LOAD REV
LOAD FWD
LOAD
OPEN SW
LOUT2
LOUT1
Q2100
B1GFGCAA0001
Muting Switch
Q2026
B1GDCFGA0014
Muting Control
-7.5V
MUTE L
IC2019
C3EBEG000072
EEPROM IC
(Not Supplied)
VREF+
EECS
EECLK
EEDA
IC2011
C1BB00000845
ASP IC
TV L
TV R
VCR L
VCR R
AUX L
AUX R
TUN L
TUN R
DVD MIXL
DVD MIXR
EXT L
EXT R
DVDCNT
DVDSL
DVDSR
SUBW
DVDFL
DVDFR
IC2010
C0ABBB000118
Buffer Amp
(PX)
SS L
SS R
SS C
ASP CK
ASP DA
+7.5V
-7.5V
C
D
E
SA-HT930P/PC/PX MAIN CIRCUIT
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

SCHEMATIC DIAGRAM-5

B MAIN CIRCUIT

—— :+B SIGNAL LINE   - - - - :-B SIGNAL LINE   ⇨ :MAIN SIGNAL LINE

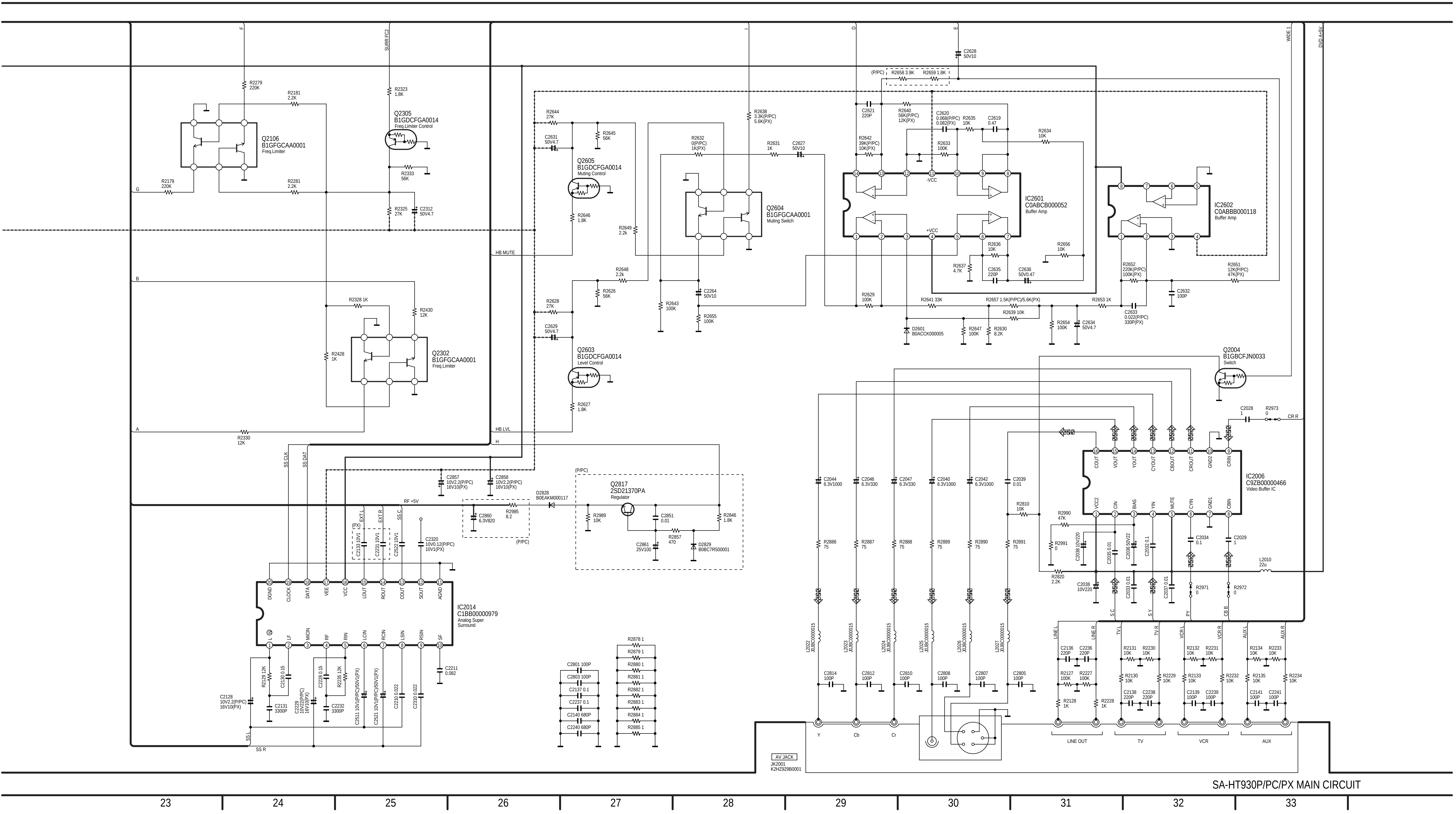

F
G
FRONTR
FRONTL
TXSURL
TXSURR
I
A
B
RSURR
CENTER
SUBWOOFER
LSURR
MUTE C
MUTE SW
MUTE S
R2263 1K
C2263 50V3.3
R2163 1K
C2163 50V3.3
R2894 220K
C2827 50V10
R2162 2.7K(P/PC) 2.2K(PX)
R2307 100
C2303 50V3.3
C2506 0.01
C2613 0.01
C2611 50V4.7
C2161 0.1
C2162 0.15(P/PC) 0.033(PX)
R2261 2.7K(P/PC)/2.2K(PX)
C2261 0.1
C2262 0.15(P/PC) 0.033(PX)
C2149 1
R2144 3.3K(P/PC) 2.2K(PX)
C2249 1
R2244 3.3K(P/PC) 2.2K(PX)
R2892 1K(P/PC)/0(PX)
R2893 22K(P/PC)/27K(PX)
C2606 0.22(P/PC)/0.15(PX)
(P/PC)
C2623 0.056
R2608 120K(P/PC)/270K(PX)
R2610 2.2K(P/PC)/4.7K(PX)
C2607 0.22(P/PC) 0.15(PX)
C2618 0.12(P/PC) 0.15(PX)
R2609 56K(P/PC) 68K(PX)
C2608 0.1(P/PC) 0.082(PX)
R2625 5.6K(P/PC)/10K(PX)
R2611 68K
(PX)
C2510 6800P
C2610 50V10
R2613 3.3K
C2502 50V1
R2503 3.3K
R2501 33K(P/PC)/56K(PX)
R2303 30K(P/PC)/27K(PX)
C2302 1
R2305 1K
C2403 1
R2405 1K
R2403 30K(P/PC)/27K(PX)
R2605 1.2K(P/PC)/3.3K(PX)
R2612 10K(P/PC) 8.2K(PX)
C2603 50V10
C2609 5600P(P/PC) 8200P(PX)
R2304 4.7K(P/PC) 3.9K(PX)
R2502 4.7K(P/PC) 7.5K(PX)
R2606 10K
C2503 0.033(P/PC) 0.022(PX)
R2504 12K
C2504 0.068
C2505 50V1
R2505 1K
R2506 33K
IC2015
C0ABBB000118
Buffer Amp
R2614 1K
R2615 100K
C2612 50V4.7
R2616 15K
C2615 5600P
R2617 33K
R2618 1K
C2616 16V10
R2407 100
C2404 50V3.3
Q2500
B1GDCFGA0014
Muting Control
R2508 1.8K
R2509 56K
R2510 27K
C2508 50V4.7
(P/PC)
R2661 1.5K
R2660 1.5K
D2603 B0ACCK000005
D2602 B0ACCK000005
Q2601
B1GFGCAA0001
Muting Switch
R2619 2.2K
R2511 2.2K
R2623 100K
R2624 100K
R2620 1.8K
Q2600
B1GDCFGA0014
Muting Control
R2621 56K
R2622 27K
C2617 50V4.7
R2308 1.8K
Q2103
B1GDCFGA0014
Muting Control
R2309 56K
R2310 27K
C2170 50V4.7
R2406 100K
R2311 2.2K
R2312 2.2K
Q2104
B1GFGCAA0001
Muting Switch
R2306 100K
R2255 100K
R2254 2.2K
Q2200
B1GFGCAA0001
Muting Switch
R2154 2.2K
R2155 100K
R2167 12K
R2168 22K
C2168 50V3.3
Q2105
B1GDCFGA0014
Muting Control
R2166 1.2K
MUTE F
(P/PC)
R2341 100K
K2239
K2350
R2440 2.2K
R2860 27K
R2861 56K
C2865 50V4.7
Q2821
B1GFGCAA0001
Muting Switch
Q2820
B1GDCFGA0014
Muting Control
R2340 2.2K
R2441 100K
K2027
K2026
R2863 1.8K
C2254 0.01
C2250 50V1
R2245 4.7K
R2246 33K
C2251 100P
C2252 47P
C2154 0.01
IC2013
C0AABB000125
Headphone Amp
C2151 100P
C2152 47P
C2150 50V1
R2145 4.7K
R2146 33K
C2253 16V100
R2247 22
R2249 22
R2248 22
R2250 22
C2255 1000P
R2251 4.7K
R2148 22
R2150 22
C2153 16V100
R2147 22
R2149 22
C2155 1000P
R2151 4.7K
R2153 10
MP L
MUTE H
Q2102
B1GFGCAA0001
Muting Switch
R2152 2.7K
R2252 2.7K
R2253 10
HP R
R2268 27K
R2267 56K
C2267 50V4.7
Q2201
B1GDCFGA0014
Muting Control
R2266 1.8K
MUTE HP
12
13
14
15
16
17
18
19
20
21
22

SA-HT930P/PC/PX MAIN CIRCUIT

SCHEMATIC DIAGRAM-6

B MAIN CIRCUIT

—— :+B SIGNAL LINE ---- :-B SIGNAL LINE ⇨ :DVD(VIDEO) SIGNAL LINE

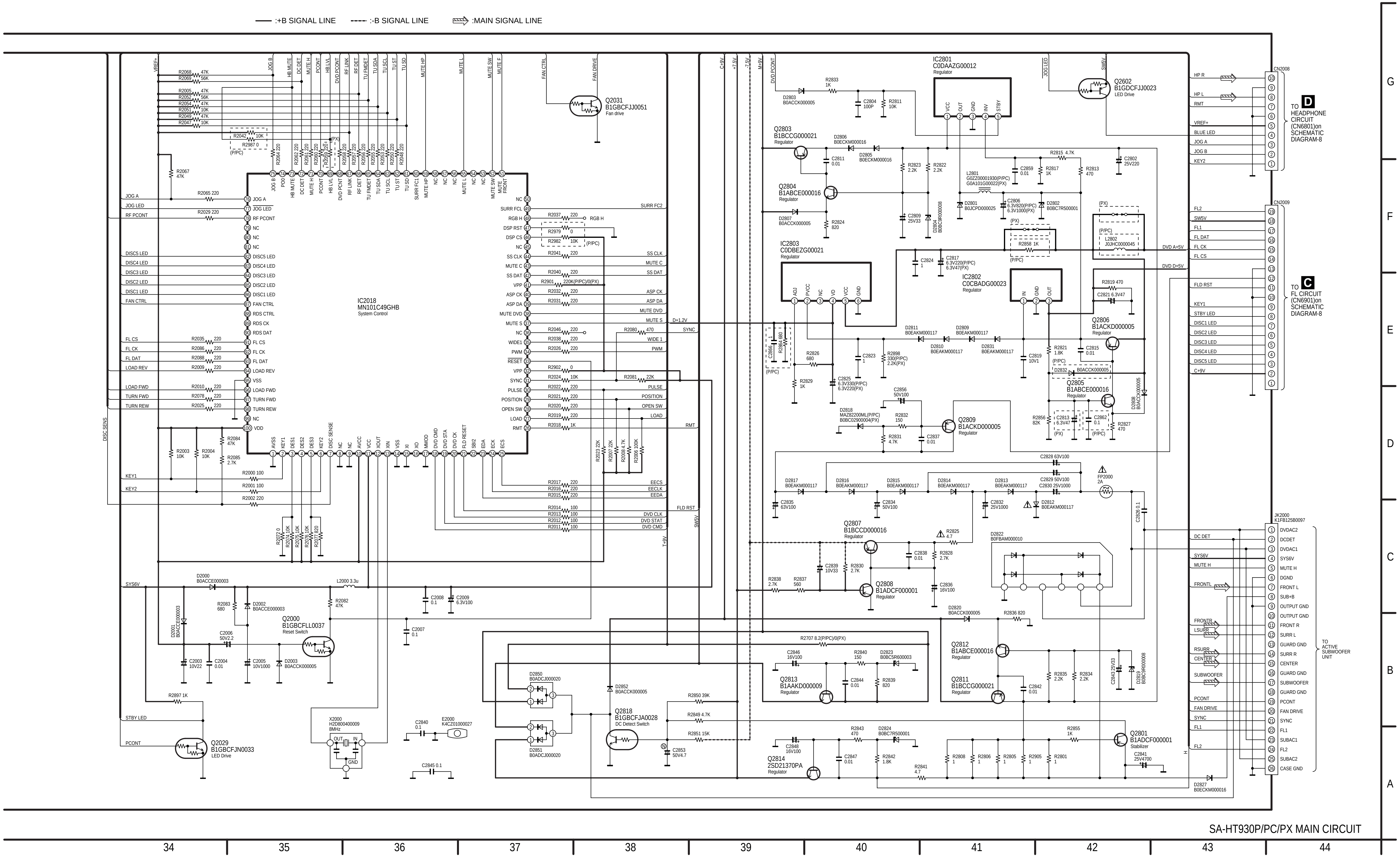

Q2106
B1GFGCAA0001
Freq.Limiter
Q2305
B1GDCFGA0014
Freq.Limiter Control
Q2302
B1GFGCAA0001
Freq.Limiter
Q2605
B1GDCFGA0014
Muting Control
Q2603
B1GDCFGA0014
Level Control
Q2604
B1GFGCAA0001
Muting Switch
IC2601
C0ABCB000052
Buffer Amp
IC2602
C0ABBB000118
Buffer Amp
Q2004
B1GBCFJN0033
Switch
IC2006
C9ZB00000466
Video Buffer IC
Q2817
2SD21370PA
Regulator
IC2014
C1BB00000979
Analog Super
Surround
D2828
B0EAKM000117
D2601
B0ACCK000005
D2829
B0BC7R500001
HB MUTE
HB LVL
RF +5V
SS CLK
SS DAT
SS L
SS R
SURR FC2
WIDE 1
DVD A+5V
CR R
DGND
CLOCK
DATA
VEE
VCC
LOUT
ROUT
COUT
SOUT
AGND
LF
MICIN
RF
RIN
LCIN
RCIN
LSIN
RSIN
SF
COUT
VOUT
YOUT
CYOUT
CBOUT
CROUT
GND2
CRIN
VCC2
CIN
BIAS
YIN
MUTE
CYIN
GND1
CBIN
Y
Cb
Cr
LINE OUT
TV
VCR
AUX
AV JACK
JK2001
K2HZ929B0001
23
24
25
26
27
28
29
30
31
32
33

SA-HT930P/PC/PX MAIN CIRCUIT

SCHEMATIC DIAGRAM-7

B MAIN CIRCUIT

——— :+B SIGNAL LINE ----- :-B SIGNAL LINE ⇨ :MAIN SIGNAL LINE

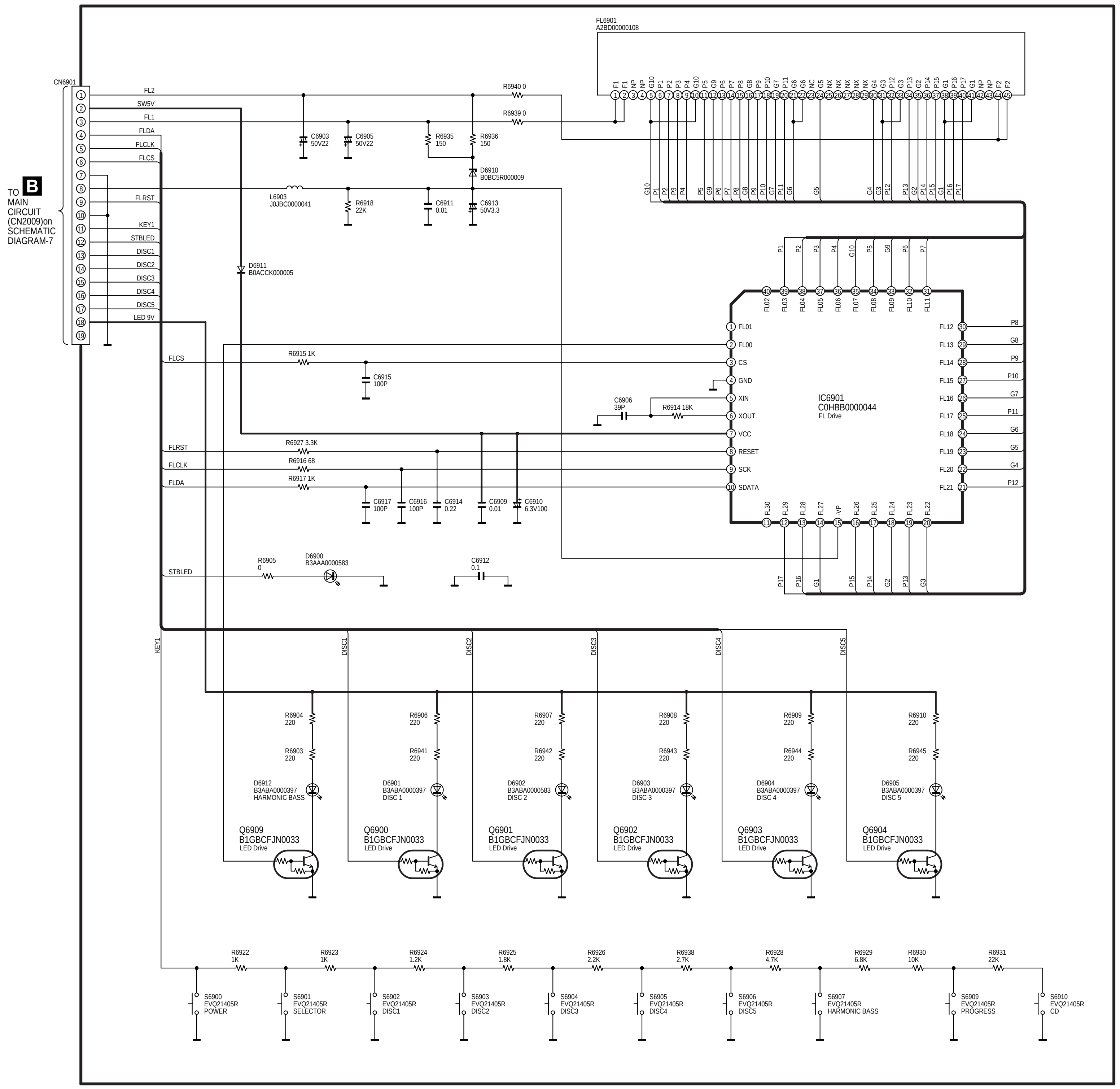

IC2018
MN101C49GHB
System Control
IC2801
C0DAAZG00012
Regulator
IC2803
C0DBEZG00021
Regulator
IC2802
C0CBADG00023
Regulator
Q2031
B1GBCFJJ0051
Fan drive
Q2602
B1GDCFJJ0023
LED Drive
Q2803
B1BCCG000021
Regulator
Q2804
B1ABCE000016
Regulator
Q2806
B1ACKD000005
Regulator
Q2805
B1ABCE000016
Regulator
Q2809
B1ACKD000005
Regulator
Q2807
B1BCCD000016
Regulator
Q2808
B1ADCF000001
Regulator
Q2812
B1ABCE000016
Regulator
Q2811
B1BCCG000021
Regulator
Q2813
B1AAKD000009
Regulator
Q2814
2SD21370PA
Regulator
Q2801
B1ADCF000001
Stabilizer
Q2818
B1GBCFJA0028
DC Detect Switch
Q2000
B1GBCFLL0037
Reset Switch
Q2029
B1GBCFJN0033
LED Drive
X2000
H2D800400009
8MHz
E2000
K4CZ01000027
FP2000
2A
CN2008
TO D HEADPHONE CIRCUIT (CN6801)on SCHEMATIC DIAGRAM-8
HP R
HP L
RMT
VREF+
BLUE LED
JOG A
JOG B
KEY2
CN2009
TO C FL CIRCUIT (CN6901)on SCHEMATIC DIAGRAM-8
FL2
SW5V
FL1
FL DAT
FL CK
FL CS
FLD RST
KEY1
STBY LED
DISC1 LED
DISC2 LED
DISC3 LED
DISC4 LED
DISC5 LED
C+9V
DVD A+5V
DVD D+5V
JK2000
K1FB125B0097
TO ACTIVE SUBWOOFER UNIT
DVDAC2
DCDET
DVDAC1
SYS6V
MUTE H
DGND
FRONT L
SUB+B
OUTPUT GND
FRONT R
SURR L
GUARD GND
SURR R
CENTER
SUBWOOFER
PCONT
FAN DRIVE
SYNC
FL1
SUBAC1
FL2
SUBAC2
CASE GND
DISC SENS
KEY1
KEY2
SYS6V
STBY LED
PCONT
JOG A
JOG LED
RF PCONT
FAN CTRL
FL CS
FL CK
FL DAT
LOAD REV
LOAD FWD
TURN FWD
TURN REW
G
F
E
D
C
B
A
34
35
36
37
38
39
40
41
42
43
44

SA-HT930P/PC/PX MAIN CIRCUIT

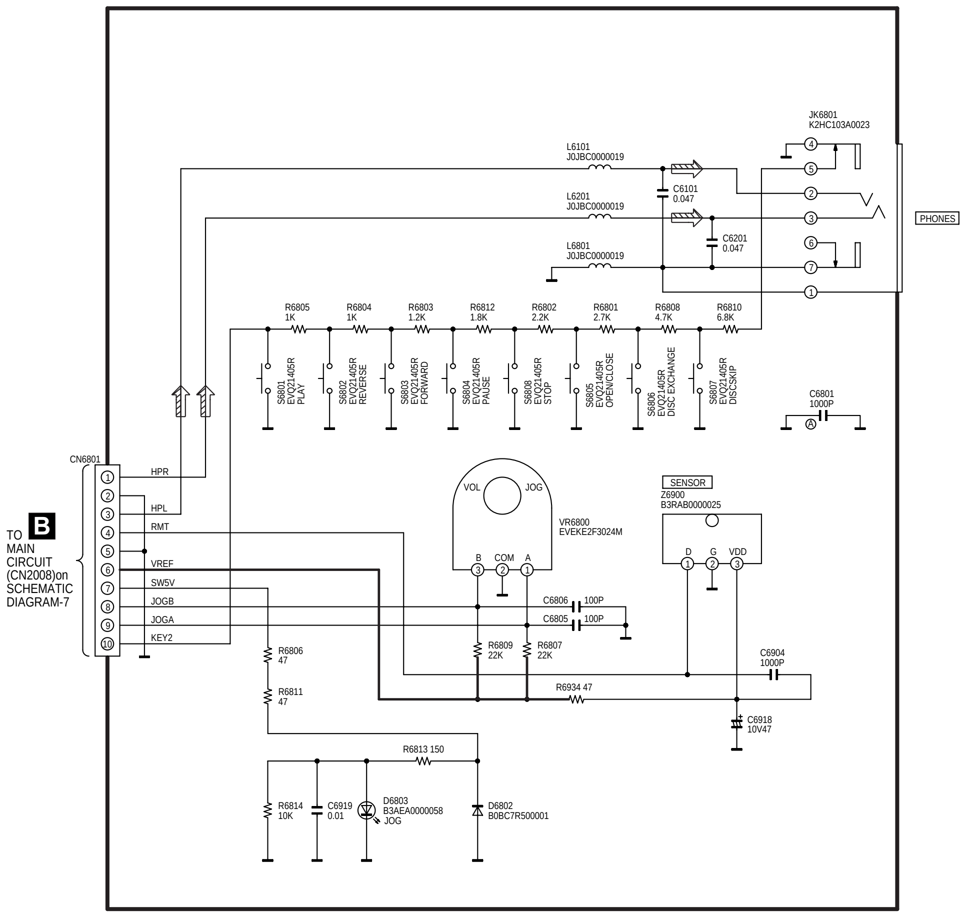
SCHEMATIC DIAGRAM-8

C FL CIRCUIT

— :+B SIGNAL LINE ⇨ :MAIN SIGNAL LINE


CN6901
TO B MAIN CIRCUIT (CN2009)on SCHEMATIC DIAGRAM-7
FL2
SW5V
FL1
FLDA
FLCLK
FLCS
FLRST
KEY1
STBLED
DISC1
DISC2
DISC3
DISC4
DISC5
LED 9V
FL6901
A2BD00000108
R6940 0
R6939 0
C6903 50V22
C6905 50V22
R6935 150
R6936 150
D6910 B0BC5R000009
L6903 J0JBC0000041
R6918 22K
C6911 0.01
C6913 50V3.3
D6911 B0ACCK000005
R6915 1K
C6915 100P
C6906 39P
R6914 18K
R6927 3.3K
R6916 68
R6917 1K
C6917 100P
C6916 100P
C6914 0.22
C6909 0.01
C6910 6.3V100
IC6901
C0HBB0000044
FL Drive
FL01
FL00
CS
GND
XIN
XOUT
VCC
RESET
SCK
SDATA
R6905 0
D6900 B3AAA0000583
C6912 0.1
R6904 220
R6903 220
R6906 220
R6941 220
R6907 220
R6942 220
R6908 220
R6943 220
R6909 220
R6944 220
R6910 220
R6945 220
D6912 B3ABA0000397 HARMONIC BASS
D6901 B3ABA0000397 DISC 1
D6902 B3ABA0000583 DISC 2
D6903 B3ABA0000397 DISC 3
D6904 B3ABA0000397 DISC 4
D6905 B3ABA0000397 DISC 5
Q6909 B1GBCFJN0033 LED Drive
Q6900 B1GBCFJN0033 LED Drive
Q6901 B1GBCFJN0033 LED Drive
Q6902 B1GBCFJN0033 LED Drive
Q6903 B1GBCFJN0033 LED Drive
Q6904 B1GBCFJN0033 LED Drive
R6922 1K
R6923 1K
R6924 1.2K
R6925 1.8K
R6926 2.2K
R6938 2.7K
R6928 4.7K
R6929 6.8K
R6930 10K
R6931 22K
S6900 EVQ21405R POWER
S6901 EVQ21405R SELECTOR
S6902 EVQ21405R DISC1
S6903 EVQ21405R DISC2
S6904 EVQ21405R DISC3
S6905 EVQ21405R DISC4
S6906 EVQ21405R DISC5
S6907 EVQ21405R HARMONIC BASS
S6909 EVQ21405R PROGRESS
S6910 EVQ21405R CD

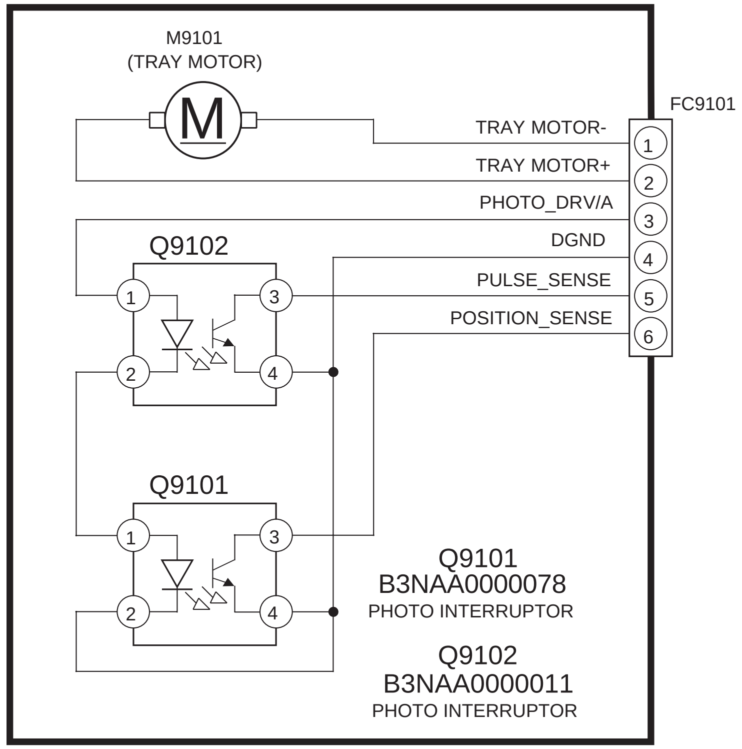
D HEADPHONE CIRCUIT


JK6801
K2HC103A0023
PHONES
L6101 J0JBC0000019
L6201 J0JBC0000019
L6801 J0JBC0000019
C6101 0.047
C6201 0.047
R6805 1K
R6804 1K
R6803 1.2K
R6812 1.8K
R6802 2.2K
R6801 2.7K
R6808 4.7K
R6810 6.8K
S6801 EVQ21405R PLAY
S6802 EVQ21405R REVERSE
S6803 EVQ21405R FORWARD
S6804 EVQ21405R PAUSE
S6808 EVQ21405R STOP
S6805 EVQ21405R OPEN/CLOSE
S6806 EVQ21405R DISC EXCHANGE
S6807 EVQ21405R DISCSKIP
C6801 1000P
CN6801
TO B MAIN CIRCUIT (CN2008)on SCHEMATIC DIAGRAM-7
HPR
HPL
RMT
VREF
SW5V
JOGB
JOGA
KEY2
VOL
JOG
VR6800
EVEKE2F3024M
SENSOR
Z6900
B3RAB0000025
C6806 100P
C6805 100P
R6809 22K
R6807 22K
R6806 47
R6811 47
R6934 47
C6904 1000P
C6918 10V47
R6813 150
R6814 10K
C6919 0.01
D6803 B3AEA0000058 JOG
D6802 B0BC7R500001

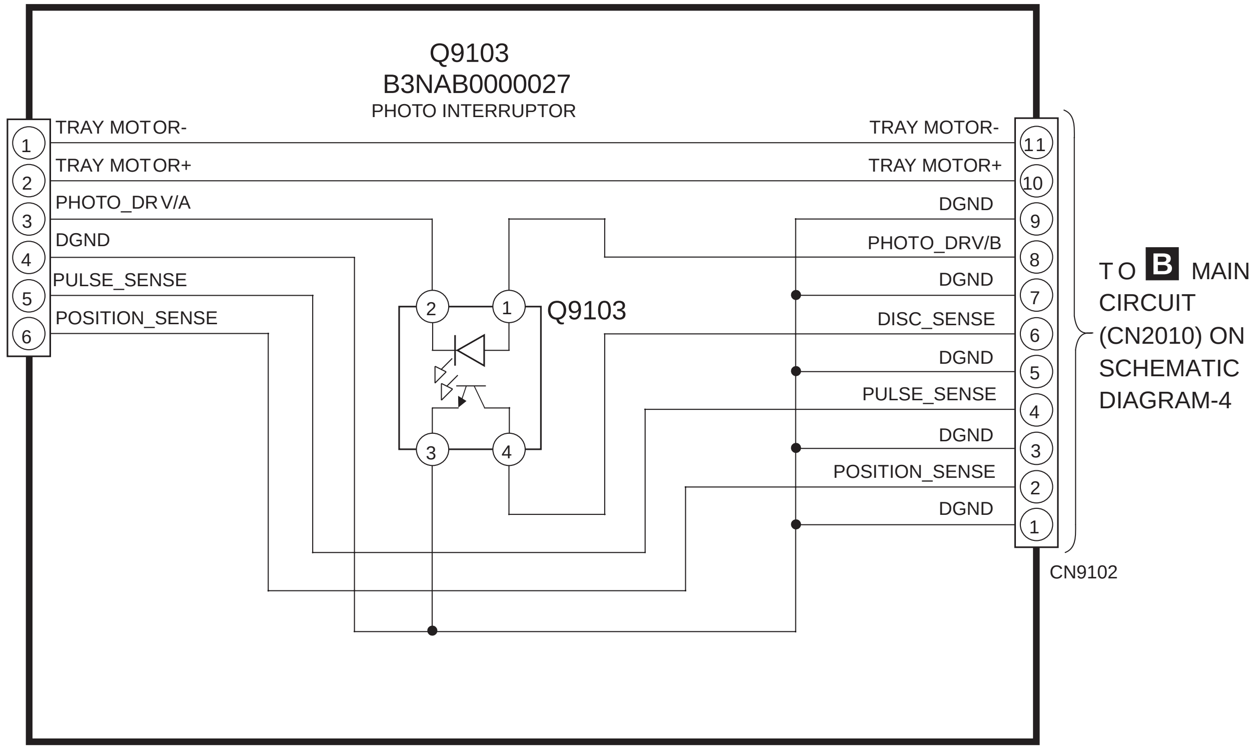
SA-HT930P/PC/PX FL/HEADPHONE CIRCUIT

SCHEMATIC DIAGRAM-9

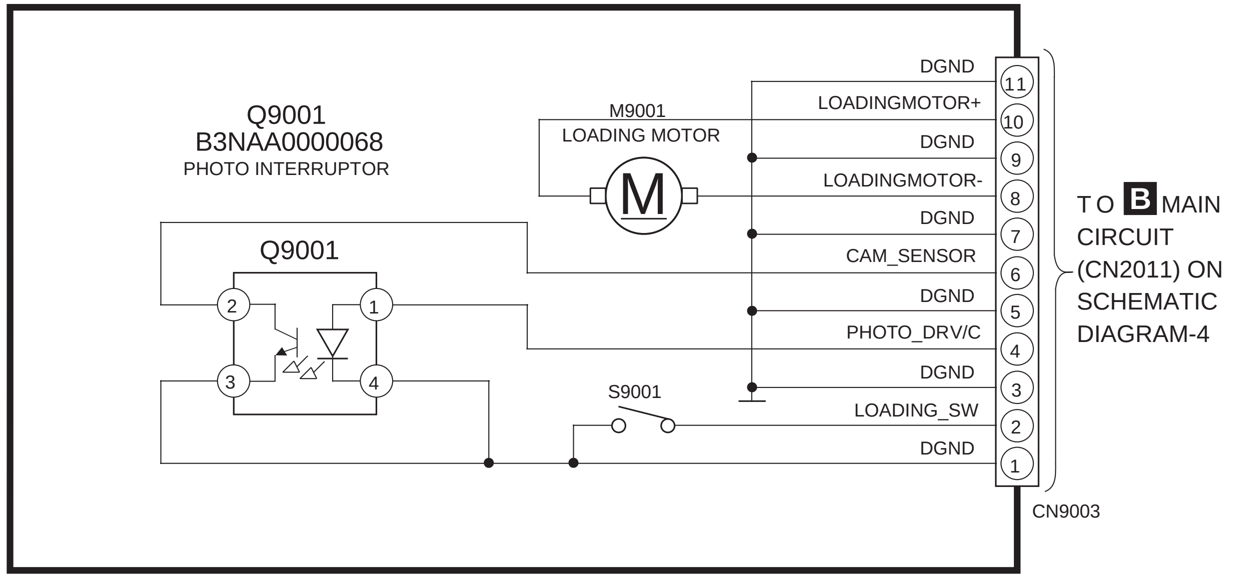
F TRAY MOTOR CIRCUIT


M9101
(TRAY MOTOR)
M
FC9101
TRAY MOTOR-
TRAY MOTOR+
PHOTO_DRV/A
DGND
PULSE_SENSE
POSITION_SENSE
1
2
3
4
5
6
Q9102
Q9101
Q9101
B3NAA0000078
PHOTO INTERRUPTOR
Q9102
B3NAA0000011
PHOTO INTERRUPTOR

G SENSOR CIRCUIT

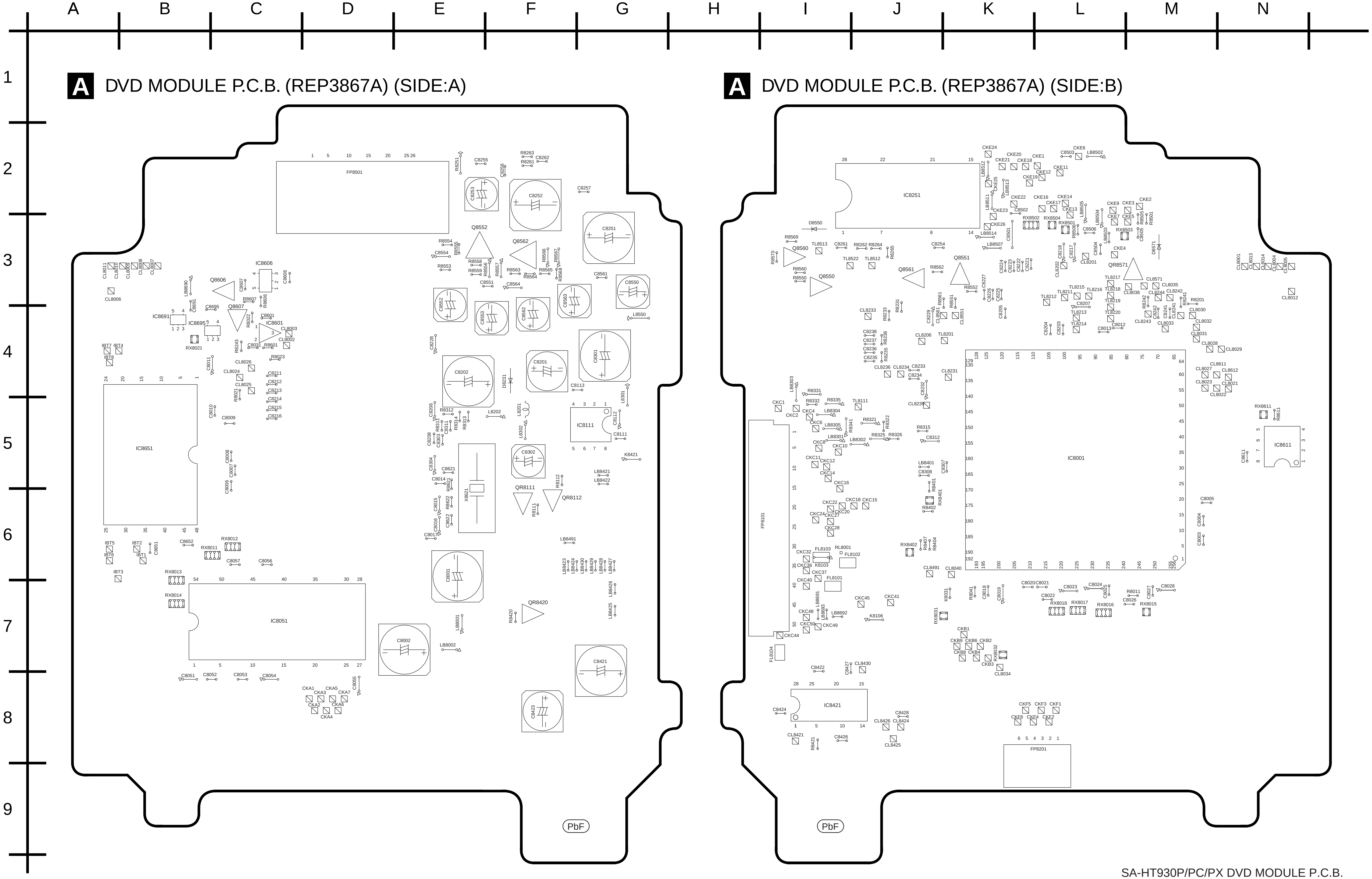

Q9103
B3NAB0000027
PHOTO INTERRUPTOR
TRAY MOTOR-
TRAY MOTOR+
PHOTO_DRV/A
DGND
PULSE_SENSE
POSITION_SENSE
1
2
3
4
5
6
Q9103
TRAY MOTOR-
TRAY MOTOR+
DGND
PHOTO_DRV/B
DGND
DISC_SENSE
DGND
PULSE_SENSE
DGND
POSITION_SENSE
DGND
11
10
9
8
7
6
5
4
3
2
1
CN9102
TO B MAIN CIRCUIT (CN2010) ON SCHEMATIC DIAGRAM-4

E LOADING MOTOR CIRCUIT


Q9001
B3NAA0000068
PHOTO INTERRUPTOR
Q9001
M9001
LOADING MOTOR
M
S9001
DGND
LOADINGMOTOR+
DGND
LOADINGMOTOR-
DGND
CAM_SENSOR
DGND
PHOTO_DRV/C
DGND
LOADING_SW
DGND
11
10
9
8
7
6
5
4
3
2
1
CN9003
TO B MAIN CIRCUIT (CN2011) ON SCHEMATIC DIAGRAM-4

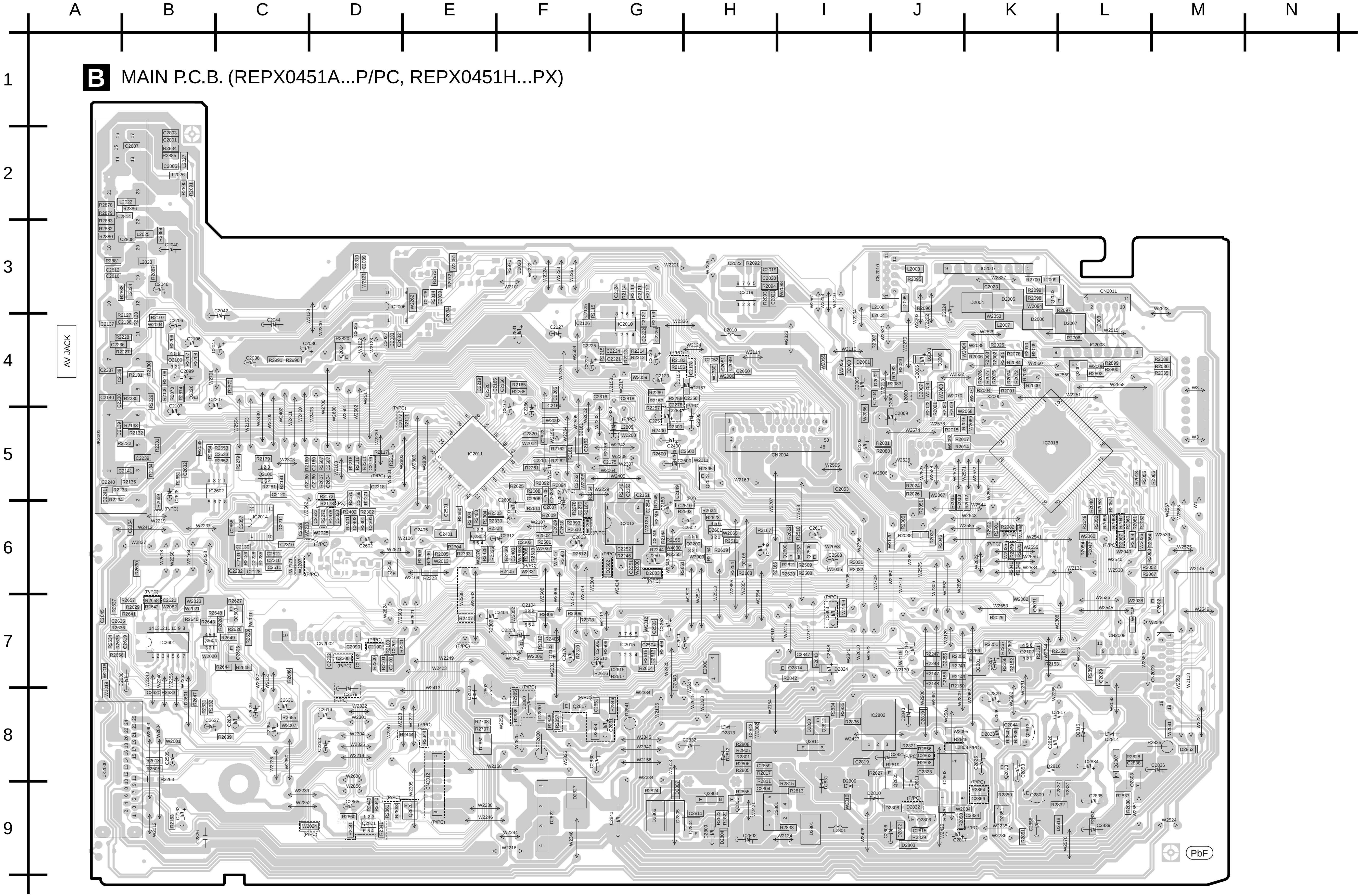
SA-HT930P/PC/PX LOADING MOTOR/TRAY MOTOR/SENSOR CIRCUIT

23 Printed Circuit Board Diagram


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
A DVD MODULE P.C.B. (REP3867A) (SIDE:A)
A DVD MODULE P.C.B. (REP3867A) (SIDE:B)
FP8501
IC8606
IC8691
IC8695
IC8601
IC8651
IC8051
IC8111
Q8552
Q8562
Q8606
Q8607
QR8111
QR8112
QR8420
X8201
C8202
C8201
C8301
C8251
C8252
C8001
C8002
C8421
C8423
PbF
IC8251
IC8001
IC8421
IC8611
FP8101
FP8201
Q8560
Q8550
Q8561
Q8551
QR8571
D8550
PbF

SA-HT930P/PC/PX DVD MODULE P.C.B.

B MAIN P.C.B. (REPX0451A...P/PC, REPX0451H...PX)

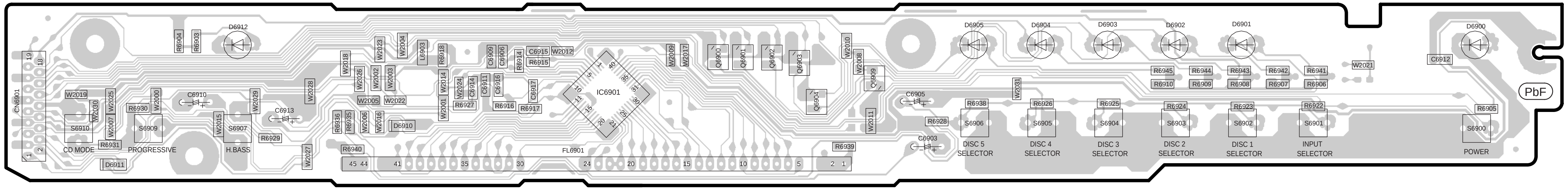

A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
AV JACK
JK2001
JK2000
IC2011
IC2018
IC2601
IC2602
IC2014
IC2010
IC2013
IC2015
IC2019
IC2007
IC2008
IC2802
CN2004
CN2002
CN2010
CN2011
CN2008
CN2009
CN2012
E2000
X2000
PbF

SA-HT930P/PC/PX MAIN P.C.B.

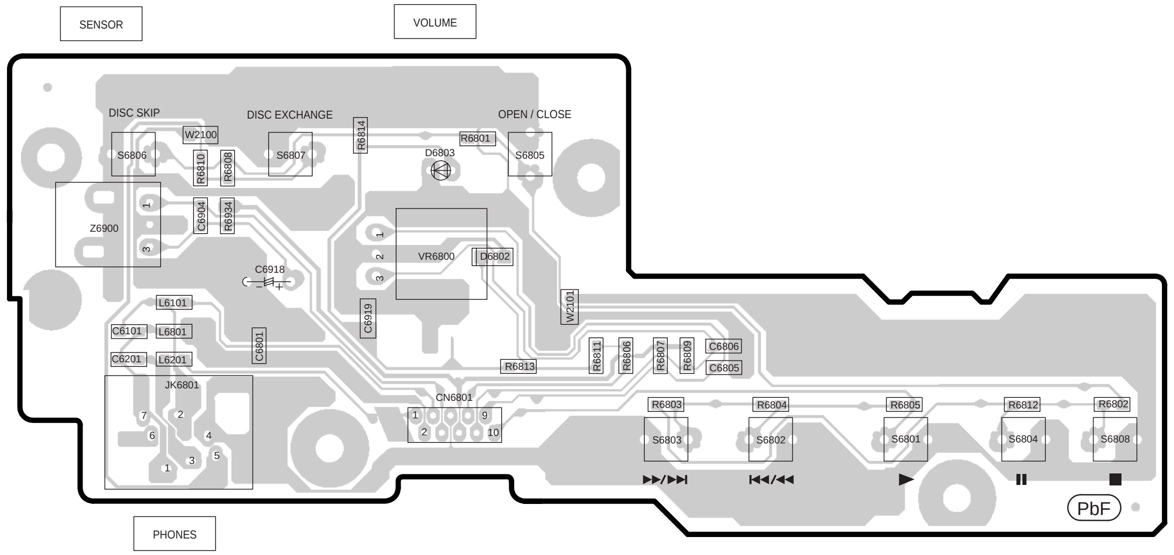
A B C D E F G H I J K L M N

1 2 3 4 5 6 7 8 9

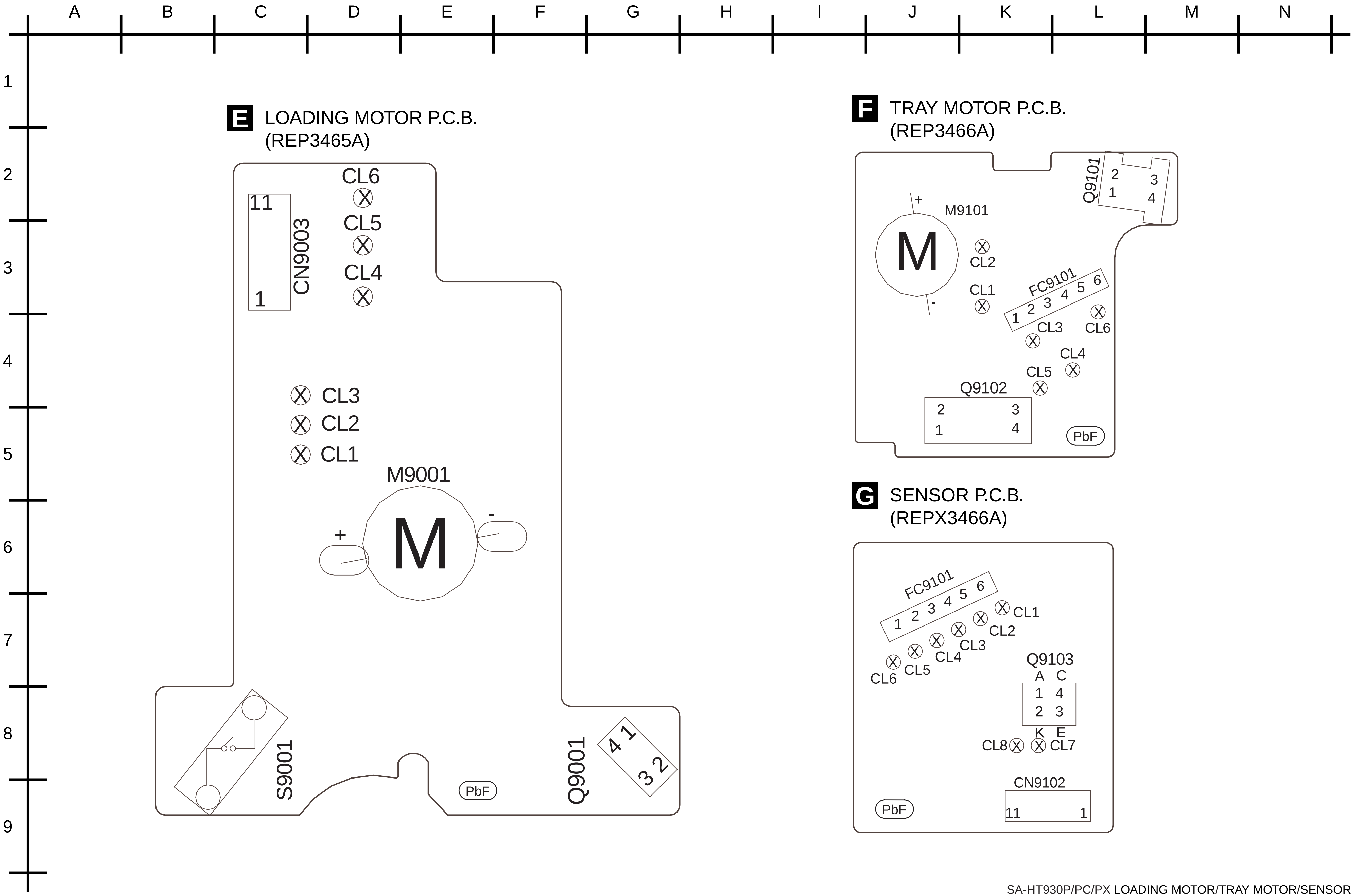
C FL P.C.B. (REPX0455A)


CN6901
D6912
IC6901
FL6901
S6910
CD MODE
S6909
PROGRESSIVE
S6907
H.BASS
D6911
D6910
D6905
D6904
D6903
D6902
D6901
D6900
S6906
DISC 5 SELECTOR
S6905
DISC 4 SELECTOR
S6904
DISC 3 SELECTOR
S6903
DISC 2 SELECTOR
S6902
DISC 1 SELECTOR
S6901
INPUT SELECTOR
S6900
POWER
C6910
C6913
C6905
C6903
C6912
W2021
PbF

D HEADPHONE P.C.B. (REPX0455A)


SENSOR
VOLUME
DISC SKIP
S6806
DISC EXCHANGE
S6807
OPEN / CLOSE
S6805
D6803
Z6900
VR6800
D6802
C6918
JK6801
CN6801
S6803
S6802
S6801
S6804
S6808
▶▶/▶▶I
I◀◀/◀◀
▶
II
■
PbF
PHONES

SA-HT930P/PC/PX FL/HEADPHONE P.C.B.



E LOADING MOTOR P.C.B.
(REP3465A)

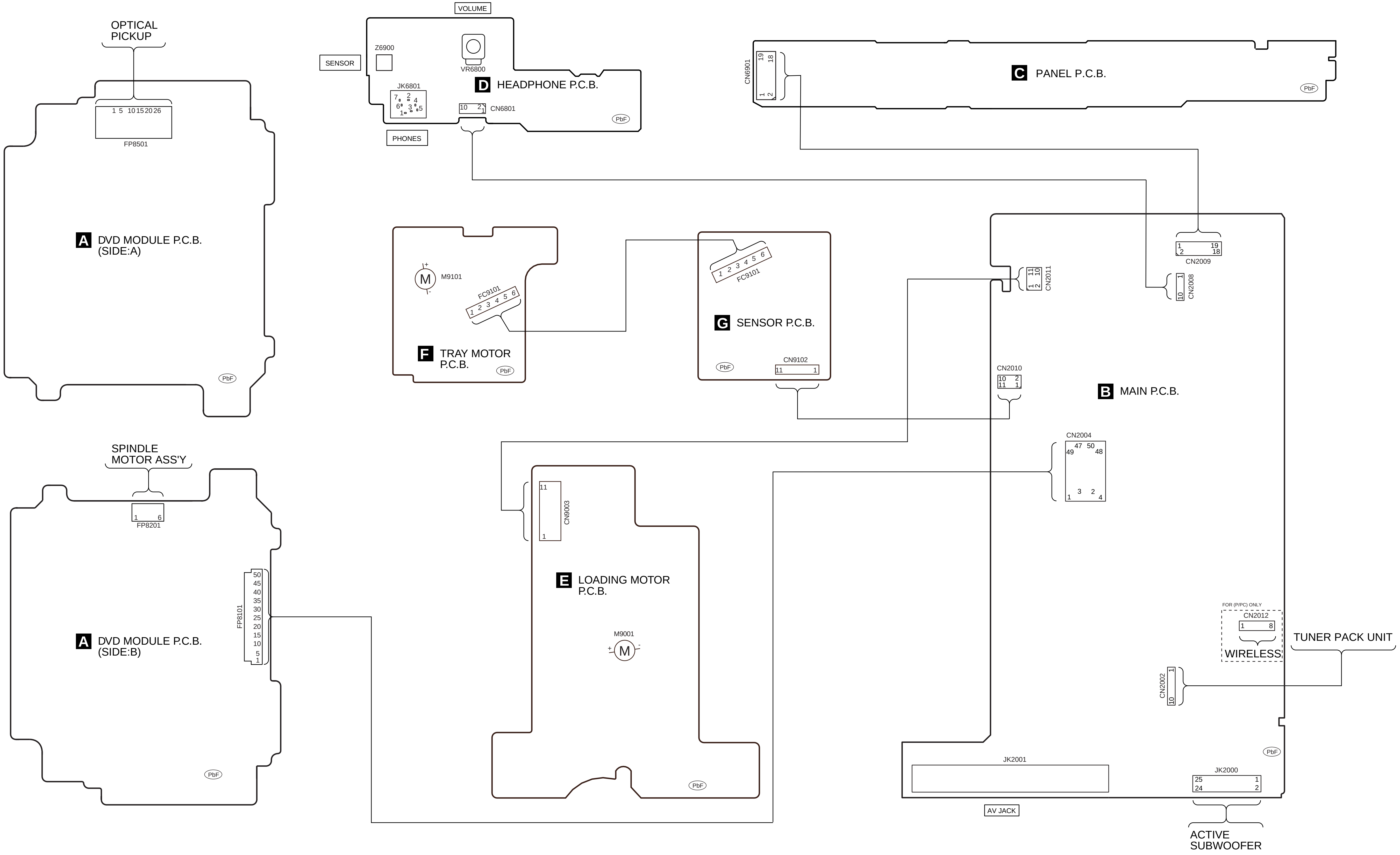
F TRAY MOTOR P.C.B.
(REP3466A)

G SENSOR P.C.B.
(REPX3466A)

A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
CN9003
11
1
CL6
CL5
CL4
CL3
CL2
CL1
M9001
M
+
-
S9001
Q9001
4 1
3 2
PbF
Q9101
2
3
1
4
M9101
+
-
CL2
CL1
FC9101
1 2 3 4 5 6
CL3
CL6
CL4
CL5
Q9102
2
3
1
4
PbF
FC9101
1 2 3 4 5 6
CL1
CL2
CL3
CL4
CL5
CL6
Q9103
A C
1 4
2 3
K E
CL8
CL7
CN9102
11
1
PbF

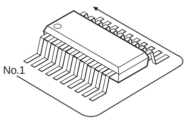
SA-HT930P/PC/PX LOADING MOTOR/TRAY MOTOR/SENSOR P.C.B.

24 Wiring Connection Diagram

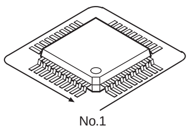

OPTICAL PICKUP
FP8501
1 5 10 15 20 26
A DVD MODULE P.C.B. (SIDE:A)
PbF
SPINDLE MOTOR ASS'Y
FP8201
1 6
A DVD MODULE P.C.B. (SIDE:B)
FP8101
50 45 40 35 30 25 20 15 10 5 1
VOLUME
SENSOR
Z6900
VR6800
JK6801
D HEADPHONE P.C.B.
CN6801
PHONES
C PANEL P.C.B.
CN6901
19 18 1 2
F TRAY MOTOR P.C.B.
M9101
FC9101
1 2 3 4 5 6
G SENSOR P.C.B.
CN9102
11 1
E LOADING MOTOR P.C.B.
CN9003
11 1
M9001
B MAIN P.C.B.
CN2009
CN2008
CN2011
CN2010
CN2004
47 50 49 48 3 2 1 4
FOR (P/PC) ONLY
CN2012
1 8
WIRELESS
TUNER PACK UNIT
CN2002
1 10
JK2001
AV JACK
JK2000
25 24 1 2
ACTIVE SUBWOOFER

SA-HT930P/PC/PX WIRING CONNECTION

25 Illustration of IC's, Transistors and Diodes

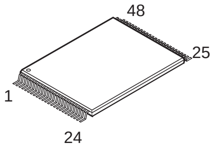


C0ABBB000118 (8p)
C0ABCB000052 (14p)
C0CBCBD00018 (8p)
C0FBBK000050 (28p)
C1BB00000979 (20p)
C3ABPG000133 (54p)
C9ZB00000466 (16p)

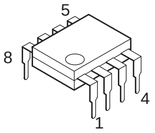


C0HBB0000044 (40p)
C1BB00000845 (80p)
MN101C49GHB (100p)
MN2DS0003APH (256p)

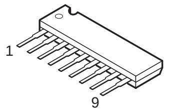
RFKWMH82H160



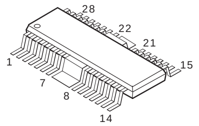
C0AABB000125



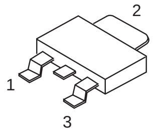
C0GAG0000007



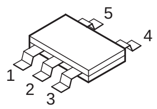
C0GBG0000048


28
22
21
15
1
7
8
14

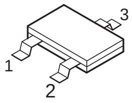
C0CBADG00023



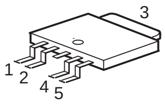
C0EBA0000031
C0JBAA000346



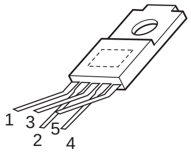
C0EBE0000384



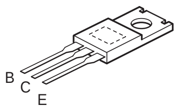
C0DBEZG0021



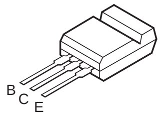
C0DAAZG00012



B1BCCG000021

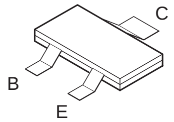


2SD21370PA

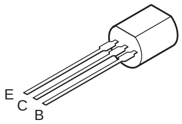


2SB09700RL
2SB1219AHL
2SD1819A0L
UNR521400L

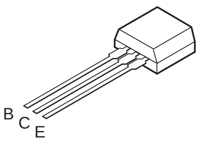
B1ABCF000131
B1ADCF000001
B1GBCFJA0028
B1GBCFJJ0039
B1GBCFJN0021
B1GBCFLL0028
B1GDCFGA0014
UNR511V00L
UNR521100L



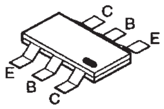
B1AAKD000009
B1ACKD000004



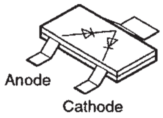
B1BCCD000016



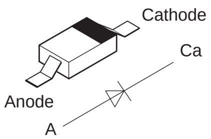
B1GFGCAA0001



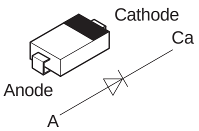
B0ADCJ000020


Anode
Cathode

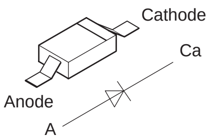
MAZ82200ML


Cathode
Ca
Anode
A

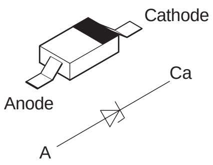
B0ECKM000016
B0JCPD000025


Cathode
Ca
Anode
A

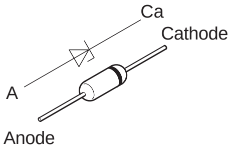
MA2J11100L


Cathode
Ca
Anode
A

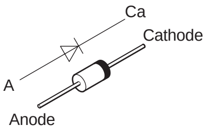
B0ACCE000003
B0ACCK000005
B0BC9R000008
B0BC7R500001


Cathode
Ca
Anode
A

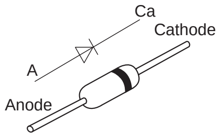
B0BC5R600003


Ca
Cathode
A
Anode

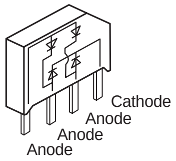
B0EAKM000117


Ca
Cathode
A
Anode

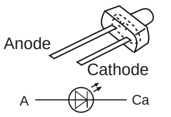
MA2J72800L


Ca
Cathode
A
Anode

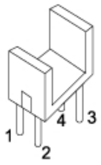
B0FBAM000010


Cathode
Anode
Anode
Anode

B3AAA0000583
B3ABA0000397


Anode
Cathode
A
Ca

B3NAA0000068



26 Terminal Function of ICs

26.1. IC2018 (MN101C49GHB): Operation CPU

Pin No.	Terminal Name	I/O	Function
1	AVSS	-	- Power supply for A/D converter
2	KEY1	I	Key 1 line input
3	DES1	I	Tuner region setting signal input
4	DES2	I	Model select signal input
5	DES3	I	DVD region setting signal input
6	KEY2	I	Key 2 line input
7	DISC SENSE	I	Disc sensor signal input
8	N.C	-	No connecting (GND)
9	N.C	-	No connecting (GND)
10	AVCC	-	+ Power supply for A/D converter
11	VCC	-	Power supply terminal (5V)
12	XOUT	-	Main clock output (8.0MHz)
13	XIN	-	Main clock input (8.0MHz)
14	VSS	-	GND
15	XI	-	GND
16	XO	-	Not used, open
17	MMOD	-	GND
18	DVD CMD	O	DVD command signal output
19	DVD STA	I	DVD status signal input
20	DVD CK	I	DVD clock signal input
21	FLD RST	O	FL Driver Reset signal output
22	SBI2	-	No connection (OPEN)
23	EDA	I/O	EEPROM data in/output
24	ECK	O	EEPROM clock output
25	ECS	O	EEPROM latch output
26	RMT	I	Remote control input
27	LOAD	I	UP/DOWN switch signal input
28	OPEN SW	I	Rotary tray OPEN switch signal input
29	POS SW	I	Position detection sensor signal input
30	PULSE	I	Speed detection sensor signal input
31	SYNC	I	AC failure detection input
32	VPP	-	Power supply for Flash
33	RESET	I	System reset signal input
34	PWM	O	Pulse width modulation output for the changer
35	WIDE1	-	Not used
36	N.C	-	Not used
37	MUTE_S	O	Mute signal output for surround Audio signal
38	MUTE_DVD	I	Signal output from DVD module control mute circuit
39	ASP_DA	O	ASP data output
40	ASP_CK	O	ASP clock output
41	VPP	-	Power supply for Flash
42	SS_DATA	O	Surround data output
43	MUTE_C	O	Mute signal output for Center speaker
44	SS_CLK	O	Surround clock output
45	N.C	-	Not used, open
46	DSP_CS	-	Not used, open
47	N.C	-	Not used, open
48	N.C	-	Not used
49	SURR FC2	-	Surround Frequency Limiter
50	N.C	-	Not used, open
51	MUTE F	O	Mute signal output for Front speaker
52	MUTE SW	O	Mute signal output for Subwoofer
53	N.C	-	Not used, open
54	N.C	-	Not used, open
55	MUTE L	O	Mute signal output for the line output
56	N.C	-	Not used, open
57	N.C	-	Not used, open
58	N.C	-	Not used, open
59	MUTE_HP	O	Mute signal output for Headphone
60	N.C	-	Not used
61	TU_SD	I	Tuner signal detect input
62	TU_ST/DO	I	Stereo indicator from Tuner/ DO output of Tuner IC
63	TU_SCL (PLL CK)	O	Clock output for Tuner
64	TU_SDA (PLL DA)	O	Data output for Tuner
65	FM_DET	I	Tuner FM detect signal input
66	RF_DET	I	RF detect input (Wireless ready)
67	RF_ LINK	I	RF power control input (Wireless ready)
68	DVD_PCNT	O	Control signal output for the power for the DVD module
69	N.C	-	Not used, open
70	PCONT	O	Control signal output for the power control relay
71	MUTE_H	O	Mute signal output for HIC amplifier
72	DC_DET	I	DC detection signal input
73	HB_MUTE	O	Mute signal output for Harmonic bass
74	N.C	-	Not used, open
75	JOG_B	I	Volume jog B signal input
76	JOG_A	I	Volume jog A signal input
77	JOG_LED	O	Volume Jog LED control signal output
78	RF_PCONT	O	Control signal output for the RF power
79	N.C	-	Not used, open
80	N.C	-	Not used, open
81	N.C	-	Not used, open
82	DISC5_LED	O	Disc 5 LED control signal output
83	DISC4_LED	O	Disc 4 LED control signal output
84	DISC3_LED	O	Disc 3 LED control signal output
85	DISC2_LED	O	Disc 2 LED control signal output
86	DISC1_LED	O	Disc 1 LED control signal output
87	N.C	-	Not used
88	N.C	-	Not used, open
89	N.C	-	Not used, open
90	N.C	-	Not used, open
91	FL_CS	O	FL driver latch output
92	FL_CK	O	FL driver clock output
93	FL_DAT	O	Data input for the FL driver
94	LOAD_REV	O	Reverse control signal output for OPEN/CLOSE motor
95	VSS	-	- Power supply for D/A converter (GND)
96	LOAD_FWD	O	Forward control signal output for OPEN/CLOSE motor
97	TURN_FWD	O	Forward control signal output for turn motor
98	TURN_REW	O	Reverse control signal output for turn motor
99	NC	-	Not used, open
100	VDD	-	+ Power supply for D/A converter

27 Parts Location and Replacement Parts List

Notes:

*Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety purpose.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM).

*The parenthesized indications in the Remarks columns specify the model names and areas. (Refer to the cover page)

*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

*Reference for O/I book languages are as follows:

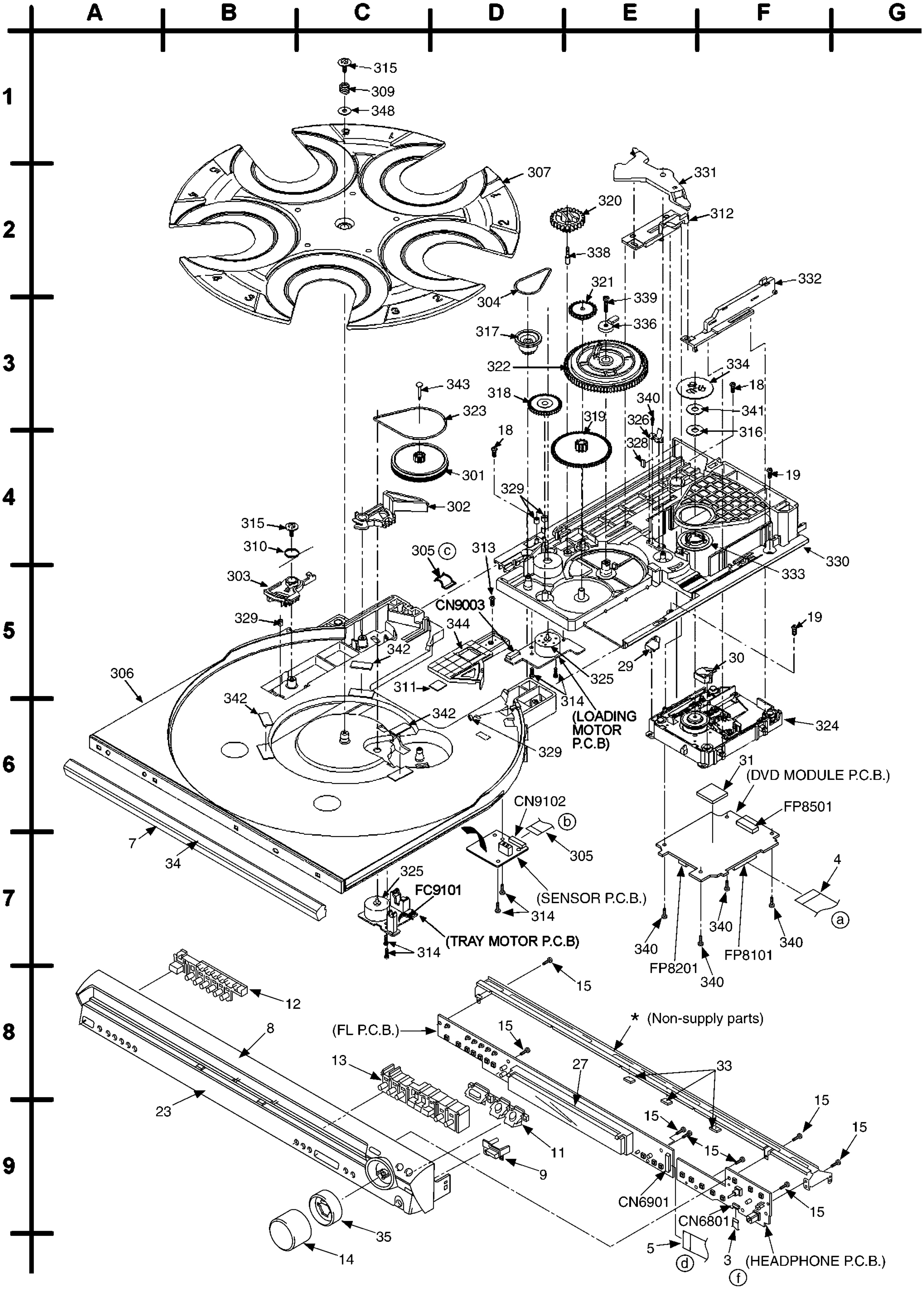
[En: English, Cf: Canadian French]

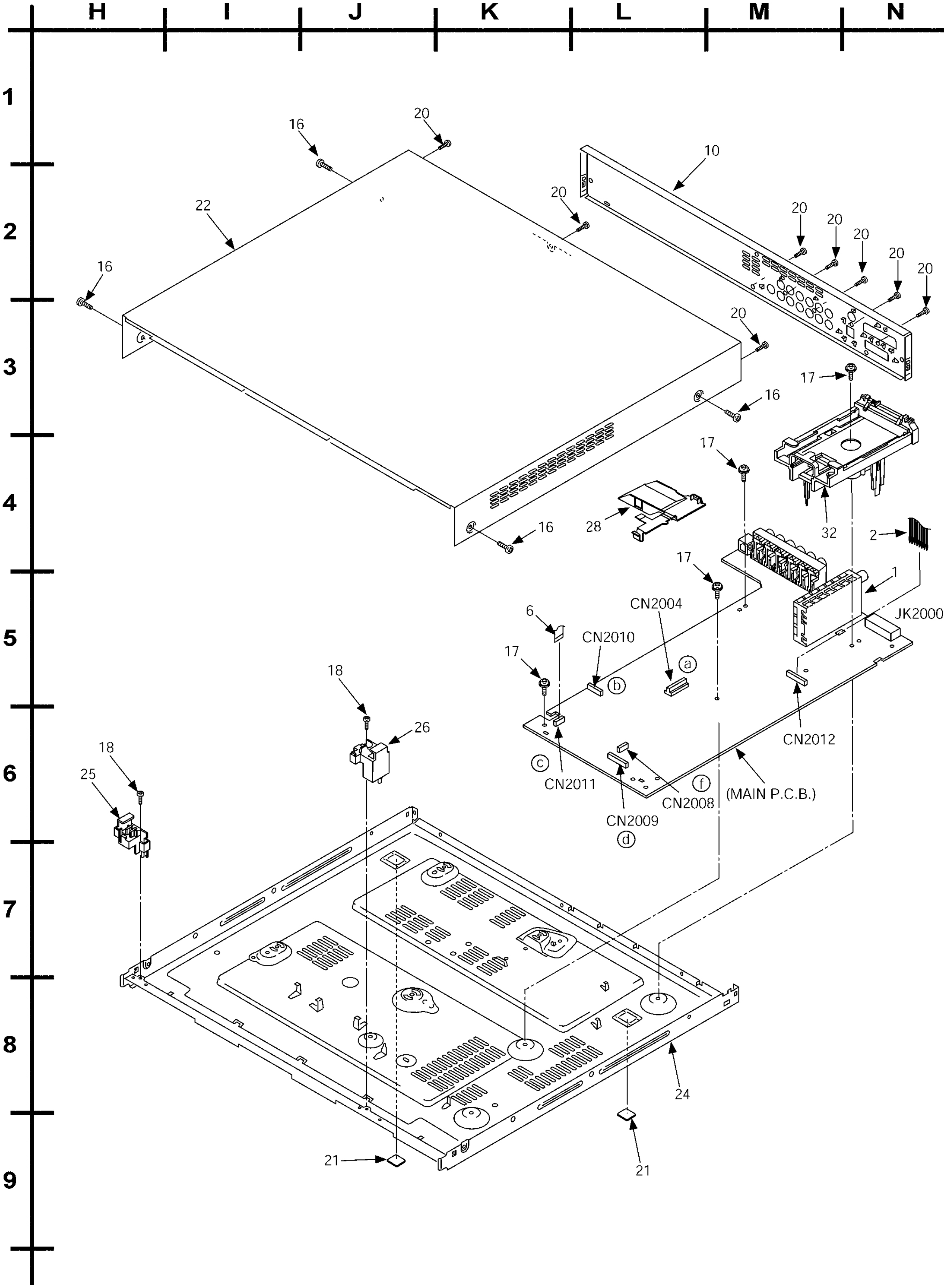
*[M] indicates in the Remarks columns indicates parts supplied by PAVCSG.

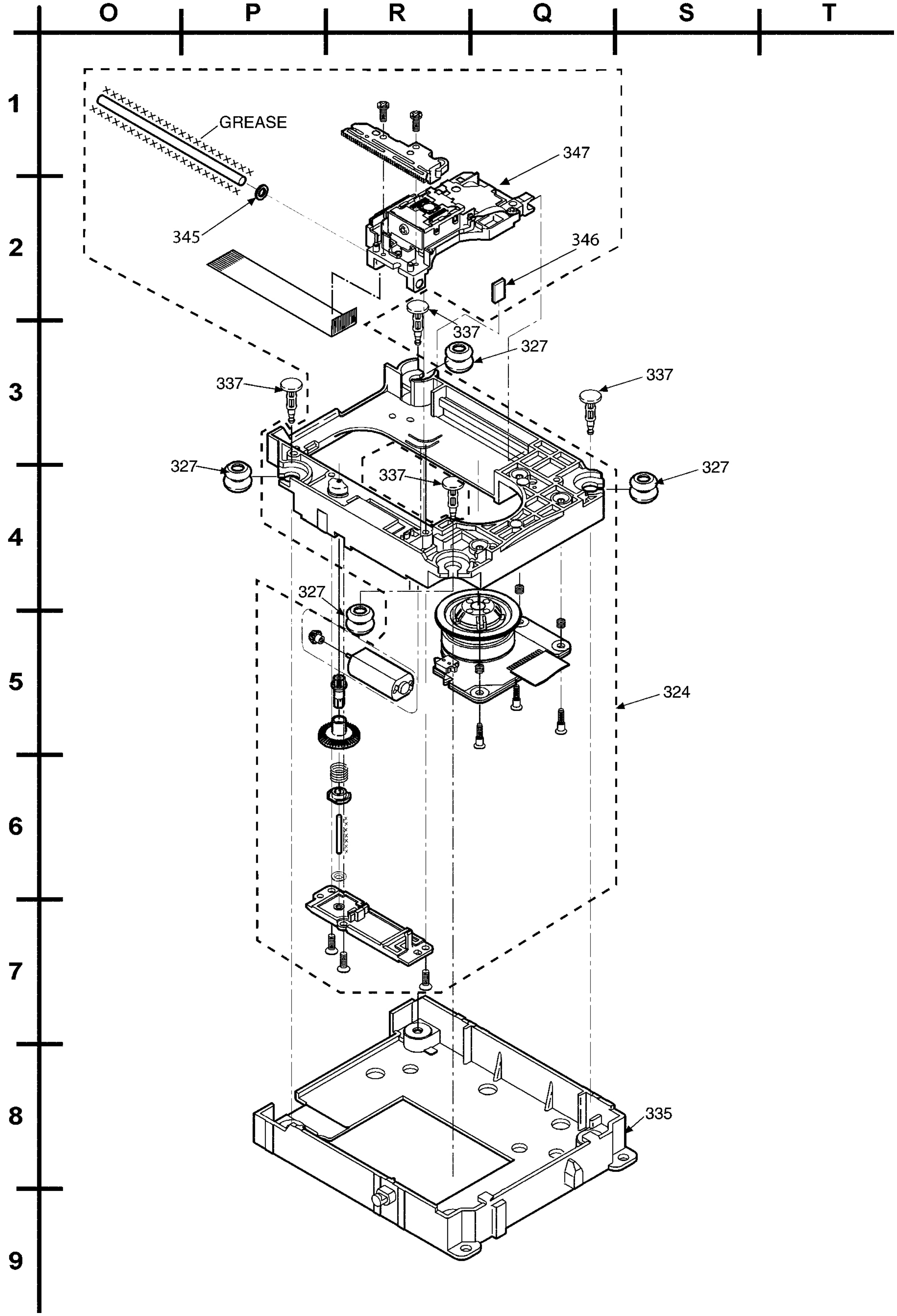
*[SPG] indicates in the Remarks columns indicates parts supplied by SPG [PAVC].

27.1. Loading Mechanism, Traverse Unit & Cabinet

27.1.1. Loading Mechanism, Traverse Unit & Cabinet Parts Location


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
315
309
348
307
331
320
312
338
332
321
304
339
336
317
322
334
343
18
318
340
341
323
319
326
316
18
328
301
19
329
302
315
310
305 ⓒ
313
330
333
303
CN9003
19
329
344
342
29
30
306
311
325
342
314
342
(LOADING MOTOR P.C.B)
324
329
31
(DVD MODULE P.C.B.)
CN9102
ⓑ
FP8501
305
7
34
4
325
FC9101
(SENSOR P.C.B.)
314
ⓐ
340
340
340
(TRAY MOTOR P.C.B)
314
FP8101
FP8201
340
15
12
* (Non-supply parts)
8
(FL P.C.B.)
15
13
27
33
23
15
15
15
15
11
9
CN6901
15
35
CN6801
5
ⓓ
3
(HEADPHONE P.C.B.)
ⓕ
14


H
I
J
K
L
M
N
JK2000
CN2004
CN2010
a
b
CN2012
c
CN2011
f
CN2008
(MAIN P.C.B.)
CN2009
d


O
P
R
Q
S
T
GREASE

27.1.2. Traverse and Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	J3CCBB000004	TUNER PACK	[M]
2	K1NA08B00012	WIRELESS CONNECTOR	[M]PC P
3	REEX0420	10P FFC WIRE	[M]
4	REEX0421	50P FFC WIRE	[M]
5	REEX0422	19P FFC (FL-MAIN)	[M]
6	REZ1483	11P FFC (MECHA BASE)	[M]
7	RGKX0311-S	TRAY LID	[M]
8	RGPX0177A-S1	FRONT PANEL	[M]PC
8	RGPX0177B-S1	FRONT PANEL	[M]PX
8	RGPX0177-S1	FRONT PANEL	[M]P
9	RGQX0025-Q	SENSOR WINDOW	[M]
10	RGRX0045C-A1	REAR PANEL	[M]PC P
10	RGRX0045D-F	REAR PANEL	[M]PX
11	RGUX0622-S	OPEN/CLASE BUTTON	[M]
12	RGUX0623-S	POWER BUTTON	[M]
13	RGUX0624-S	OPERATION BUTTON	[M]
14	RGWX0076-S	VOLUME KNOB	[M]
15	RHD26046	SCREW	[M]
16	RHD30007-1SJ	SCREW	[M]
17	RHD30090-1	SCREW	[M]
18	RHD30102-1	SCREW	[M]
19	RHD30107-1	SCREW	[M]
20	RHD30119	SCREW	[M]
21	RKA0059-K	LEG RUBBER	[M]
22	RKMX0111-S	TOP CABINET	[M]
23	RKWX0249B-Q	FL ORNAMENT	[M]
24	RMKX0103	BOTTOM CHASSIS	[M]
25	RMN0730	TRAY GUIDE L	[M]
26	RMN0731	TRAY GUIDE R	[M]
27	RMNX0149	FL HOLDER	[M]
28	RMVX0085	CHASSIS COVER	[M]
29	RMX0274	TRAY SUPPORT R	[M]
30	RMX0275	TRAY SUPPORT L	[M]
31	RMX0290	PLASTIC SHEET	[M]
32	RYPX0091-K	TRANSMITTER CHASSIS	[M]PC P
33	RKAX0026-K	RUBBER CUSHION	[M]
34	RKWX0250-Q1	TRAY LID ORNAMENT	[M]
35	RMRX0052-Q	LIGHTING RING	[M]
		TRAVERSE DECK	
301	RDG0567	PULSE GEAR	[M]
302	RDG0568	OPEN LOCK GEAR	[M]
303	RDG0569	CLOSE LOCK GEAR	[M]
304	RDV0073	TRAY BELT	[M]
305	REZ1484	11P FFC	[M]
306	RGQ0358-K	TRAY BASE	[M]
307	RGQ0359-K	ROTARY TRAY	[M]
309	RMB0365	TRAY SPRING	[M]
310	RME0384	CLOSE LOCK GEAR SPRING	[M]
311	RMF0324	BLOCK SHEET	[M]
312	RMM0255	SLIDE PLATE L	[M]
313	XTB3+10JFJ	SCREW	[M]
314	XTN26+8G	SCREW	[M]
315	XTWS3+10S	SCREW	[M]
316	JSM0048	MAGNET	[M]
317	RDG0562	PULLEY GEAR	[M]
318	RDG0563	RELAY GEAR A	[M]
319	RDG0564	RELAY GEAR B	[M]
320	RDG0565	DRIVE GEAR A	[M]
321	RDG0566	DRIVE GEAR B	[M]
322	RDG0570	CAM GEAR	[M]
323	RDV0072	LOADING BELT	[M]
324	RAE2012Z-S	DU69U TRAVERSE	[M]
325	REM0112	LOADING MOTOR ASS’Y	[M]
326	RMC0387	SUPPORT SPRING	[M]
327	RMG0598-A	FLOATING RUBBER	[M]
328	RMG0615-K	CUSHION SHEET	[M]
329	RMG0620-K	CUSHION RUBBER	[M]
330	RMK0555	MECHA BASE	[M]
331	RML0646	CHANGE LEVER	[M]
332	RMM0254	SLIDE PLATE R	[M]
333	RMR1446-X	CLAMPER	[M]
334	RMR1447-X	MAGNET HOLDER	[M]
335	RMR1596-X2	MIDDLE CHASSIS	[M]
336	RMR1507-X	SUPPORT PIECE	[M]
337	RMS0789	FIXED PIN	[M]
338	RMS0802-J	DRIVE GEAR SHAFT	[M]
339	XTN26+14JFZ	SCREW	[M]
340	XTV2+6G	PCB SCREW	[M]
341	XWG6FFY	WASHER	[M]
342	RMF0182	TRAY FELT	[M]
343	RMS0123-1	FIXED PIN B	[M]
344	RMM0256	BLOCK BASE	[M]
345	RMG0617-H	CUSHION RUBBER A	[M]
346	RMG0618-H	CUSHION RUBBER B	[M]
347	RXQ1252	DVD OPU ASS’Y	[M]
348	RMX0247	WASHER	[M]

27.2. Component Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARDS	
	REP3867A	DVD MODULE(1) P.C.B	[M] (RTL)
	REPX0451A	MAIN P.C.B	[M]P/PC (RTL)
	REPX0455A	FL P.C.B	[M] (RTL)
	REPX0455A	HEADPHONE P.C.B	[M] (RTL)
	REP3465A	LOADING MOTOR P.C.B	[M] (RTL)
	REP3466A	TRAY MOTOR P.C.B	[M] (RTL)
	REP3466A	SENSOR P.C.B	[M] (RTL)
	REPX0451H	MAIN P.C.B	[M]PX (RTL)
		INTEGRATED CIRCUITS	
IC2006	C9ZB00000466	IC VIDEO BUFFER	[M]
IC2007	C0GAG0000007	IC CHANGER MOTOR DRIVE	[M]
IC2008	C0GAG0000007	IC CHANGER MOTOR DRIVE	[M]
IC2010	C0ABBB000118	IC BUFFER AMP	[M]
IC2011	C1BB00000845	IC ASP	[M]
IC2013	C0AABB000125	IC HP AMP	[M]
IC2014	C1BB00000979	IC ANALOG SURROUND	[M]
IC2015	C0ABBB000118	IC BUFFER AMP	[M]
IC2018	MN101C49GHB	IC MICRO-PROCESSOR	[M]
IC2601	C0ABCB000052	IC BUFFER AMP	[M]
IC2602	C0ABBB000118	IC BUFFER AMP	[M]
IC2801	C0DAAZG00012	IC 5V REGULATOR	[M]
IC2802	C0CBADG00023	IC DC-DC CONVERTER	[M]
IC2803	C0DBEZG00021	IC REGULATOR	[M]
IC6901	C0HBB0000044	IC DISPLAY	[M]
IC8001	MN2DS0003APH	IC DV2.1 LSI	[M]
IC8051	C3ABPG000133	IC 64M SDRAM	[M]
IC8111	C0CBCBD00018	IC POWER SUPPLY	[M]
IC8251	C0GBG0000048	IC MOTOR DRIVER	[M]
IC8421	C0FBBK000050	IC AUDIO DAC	[M]
IC8601	C0EBE0000384	IC VOLTAGE DETECTING	[M]
IC8606	C0EBA0000031	IC RESET	[M]
IC8651	RFKWMH82H160	IC 16M FLASH ROM	[SPG]
IC8691	C0JBAA000346	IC LOGIC	[M]
IC8695	C0JBAA000346	IC LOGIC	[M]
		TRANSISTORS	
Q2000	B1GBCFLL0037	TRANSISTOR	[M]
Q2001	B1GBCFJJ0051	TRANSISTOR	[M]
Q2002	B1GBCFJJ0051	TRANSISTOR	[M]
Q2004	B1GBCFJN0033	TRANSISTOR	[M]
Q2026	B1GDCFGA0014	TRANSISTOR	[M]
Q2028	B1GBCFJN0033	TRANSISTOR	[M]
Q2029	B1GBCFJN0033	TRANSISTOR	[M]
Q2031	B1GBCFJJ0051	TRANSISTOR	[M]
Q2100	B1GFGCAA0001	TRANSISTOR	[M]
Q2102	B1GFGCAA0001	TRANSISTOR	[M]
Q2103	B1GDCFGA0014	TRANSISTOR	[M]
Q2104	B1GFGCAA0001	TRANSISTOR	[M]
Q2105	B1GDCFGA0014	TRANSISTOR	[M]
Q2106	B1GFGCAA0001	TRANSISTOR	[M]
Q2200	B1GFGCAA0001	TRANSISTOR	[M]
Q2201	B1GDCFGA0014	TRANSISTOR	[M]
Q2302	B1GFGCAA0001	TRANSISTOR	[M]
Q2305	B1GDCFGA0014	TRANSISTOR	[M]
Q2500	B1GDCFGA0014	TRANSISTOR	[M]
Q2600	B1GDCFGA0014	TRANSISTOR	[M]
Q2601	B1GFGCAA0001	TRANSISTOR	[M]
Q2602	B1GDCFJJ0023	TRANSISTOR	[M]
Q2603	B1GDCFGA0014	TRANSISTOR	[M]
Q2604	B1GFGCAA0001	TRANSISTOR	[M]
Q2605	B1GDCFGA0014	TRANSISTOR	[M]
Q2801	B1ADCF000001	TRANSISTOR	[M]
Q2803	B1BCCG000021	TRANSISTOR	[M]
Q2804	B1ABCE000016	TRANSISTOR	[M]
Q2805	B1ABCE000016	TRANSISTOR	[M]
Q2806	B1ACKD000005	TRANSISTOR	[M]
Q2807	B1BCCD000016	TRANSISTOR	[M]
Q2808	B1ADCF000001	TRANSISTOR	[M]
Q2809	B1ACKD000005	TRANSISTOR	[M]
Q2811	B1BCCG000021	TRANSISTOR	[M]
Q2812	B1ABCE000016	TRANSISTOR	[M]
Q2813	B1AAKD000009	TRANSISTOR	[M]
Q2814	2SD21370PA	TRANSISTOR	[M]
Q2817	2SD21370PA	TRANSISTOR	[M]PC P
Q2818	B1GBCFJA0028	TRANSISTOR	[M]
Q2820	B1GDCFGA0014	TRANSISTOR	[M]PC P
Q2821	B1GFGCAA0001	TRANSISTOR	[M]PC P
Q6900	B1GBCFJN0033	TRANSISTOR	[M]
Q6901	B1GBCFJN0033	TRANSISTOR	[M]
Q6902	B1GBCFJN0033	TRANSISTOR	[M]
Q6903	B1GBCFJN0033	TRANSISTOR	[M]
Q6904	B1GBCFJN0033	TRANSISTOR	[M]
Q6909	B1GBCFJN0033	TRANSISTOR	[M]
Q8550	2SB1219AHL	TRANSISTOR	[M]
Q8551	2SD1819A0L	TRANSISTOR	[M]
Q8552	2SB09700RL	TRANSISTOR	[M]
Q8560	2SD1819A0L	TRANSISTOR	[M]
Q8561	2SD1819A0L	TRANSISTOR	[M]
Q8562	2SB09700RL	TRANSISTOR	[M]
Q8606	2SD1819A0L	TRANSISTOR	[M]
Q8607	2SD1819A0L	TRANSISTOR	[M]
Q9001	B3NAA0000068	CAM SENSOR	[M]
Q9101	B3NAA0000078	POSITION SENSOR	[M]
Q9102	B3NAA0000011	PHOTO INTERRUPTOR	[M]
Q9103	B3NAB0000027	PHOTO REFLECTOR	[M]
QR8111	UNR521400L	CHIP TRANSISTOR	[M]
QR8112	UNR521400L	CHIP TRANSISTOR	[M]
QR8420	UNR521100L	CHIP TRANSISTOR	[M]
QR8571	UNR511V00L	CHIP TRANSISTOR	[M]
		DIODES	
D2000	B0ACCE000003	DIODE	[M]
D2001	B0ACCE000003	DIODE	[M]
D2002	B0ACCE000003	DIODE	[M]
D2003	B0ACCK000005	DIODE	[M]
D2004	B0ECKM000016	DIODE	[M]
D2005	B0ECKM000016	DIODE	[M]
D2006	B0ECKM000016	DIODE	[M]
D2007	B0ECKM000016	DIODE	[M]
D2601	B0ACCK000005	DIODE	[M]
D2602	B0ACCK000005	DIODE	[M]PC P
D2603	B0ACCK000005	DIODE	[M]PC P
D2801	B0JCPD000025	DIODE	[M]
D2802	B0BC7R500001	DIODE	[M]
D2803	B0ACCK000005	DIODE	[M]
D2804	B0BC9R000008	DIODE	[M]
D2805	B0ECKM000016	DIODE	[M]
D2806	B0ECKM000016	DIODE	[M]
D2807	B0ACCK000005	DIODE	[M]
D2808	B0ACCK000005	DIODE	[M]
D2809	B0EAKM000117	DIODE	[M]
D2810	B0EAKM000117	DIODE	[M]
D2811	B0EAKM000117	DIODE	[M]
D2812	B0EAKM000117	DIODE	[M]
D2813	B0EAKM000117	DIODE	[M]
D2814	B0EAKM000117	DIODE	[M]
D2815	B0EAKM000117	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D2816	B0EAKM000117	DIODE	[M]
D2817	B0EAKM000117	DIODE	[M]
D2818	B0BC02900004	DIODE	[M]PX
D2818	MAZ82200ML	DIODE	[M]PC P
D2819	B0BC9R000008	DIODE	[M]
D2820	B0ACCK000005	DIODE	[M]
D2822	B0FBAM000010	DIODE	[M]
D2823	B0BC5R600003	DIODE	[M]
D2824	B0BC7R500001	DIODE	[M]
D2827	B0ECKM000016	DIODE	[M]
D2828	B0EAKM000117	DIODE	[M]
D2829	B0BC7R500001	DIODE	[M]PC P
D2831	B0EAKM000117	DIODE	[M]
D2832	B0ACCK000005	DIODE	[M]PC P
D2850	B0ADCJ000020	DIODE	[M]
D2851	B0ADCJ000020	DIODE	[M]
D2852	B0ACCK000005	DIODE	[M]
D6802	B0BC7R500001	DIODE	[M]
D6803	B3AEA0000058	DIODE	[M]
D6900	B3AAA0000583	DIODE	[M]
D6901	B3ABA0000397	DIODE	[M]
D6902	B3ABA0000397	DIODE	[M]
D6903	B3ABA0000397	DIODE	[M]
D6904	B3ABA0000397	DIODE	[M]
D6905	B3ABA0000397	DIODE	[M]
D6910	B0BC5R000009	DIODE	[M]
D6911	B0ACCK000005	DIODE	[M]
D6912	B3AAA0000583	DIODE	[M]
D8231	MA2J11100L	DIODE	[M]
D8550	MA2J11100L	DIODE	[M]
D8571	MA2J72800L	DIODE	[M]
		CHIP INDUCTORS	
LB8001	J0JHC0000045	CHIP INDUCTOR	[M]
LB8002	J0JHC0000045	CHIP INDUCTOR	[M]
LB8301	J0JCC0000119	CHIP INDUCTOR	[M]
LB8302	J0JCC0000119	CHIP INDUCTOR	[M]
LB8303	J0JCC0000119	CHIP INDUCTOR	[M]
LB8304	J0JCC0000119	CHIP INDUCTOR	[M]
LB8305	J0JCC0000119	CHIP INDUCTOR	[M]
LB8401	ERJ2GEJ151X	CHIP INDUCTOR	[M]
LB8421	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8422	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8423	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8424	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8425	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8426	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8427	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8428	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8429	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8430	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8491	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8502	J0JHC0000045	CHIP INDUCTOR	[M]
LB8503	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8504	J0JCC0000119	CHIP INDUCTOR	[M]
LB8505	J0JCC0000119	CHIP INDUCTOR	[M]
LB8507	J0JCC0000119	CHIP INDUCTOR	[M]
LB8511	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8512	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8513	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8514	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8690	J0JCC0000091	FILTER	[M]
LB8691	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8692	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8693	ERJ2GEJ101X	CHIP RESISTOR	[M]
		VARIABLE RESISTORS	
VR6800	EVEKE2F3024M	VR VOLUME JOG	[M]
		SWITCHES	
S6801	EVQ21405R	SW PLAY	[M]
S6802	EVQ21405R	SW REV	[M]
S6803	EVQ21405R	SW FWD	[M]
S6804	EVQ21405R	SW PAUSE	[M]
S6805	EVQ21405R	SW STOP	[M]
S6806	EVQ21405R	SW OPPEN/CLOSE	[M]
S6807	EVQ21405R	SW DISC EX	[M]
S6808	EVQ21405R	SW SKIP	[M]
S6900	EVQ21405R	SW POWER	[M]
S6901	EVQ21405R	SW SEELECTOR	[M]
S6902	EVQ21405R	SW DISC 1	[M]
S6903	EVQ21405R	SW DISC 2	[M]
S6904	EVQ21405R	SW DISC 3	[M]
S6905	EVQ21405R	SW DISC 4	[M]
S6906	EVQ21405R	SW DISC 5	[M]
S6907	EVQ21405R	SW HARMONIC BASS	[M]
S6909	EVQ21405R	SW PROGRESS	[M]
S6910	EVQ21405R	SW CD	[M]
S9001	K0L1BA000086	SW OPEN	[M]
		CONNECTORS	
CN2002	K1KA10A00263	10P CONNECTOR	[M]
CN2004	K1MN50A00008	50P CONNECTOR	[M]
CN2008	K1MN10A00052	10P CONNECTOR	[M]
CN2009	K1MN19A00036	19P CONNECTOR	[M]
CN2010	K1MN11A00030	11P CONNECTOR	[M]
CN2011	K1MN11A00030	11P CONNECTOR	[M]
CN2012	K1MP08A00006	8P CONNECTOR	[M]PC P
CN6801	K1MN10B00088	10P CONNECTOR	[M]
CN6901	K1MN19B00026	19P CONNECTOR	[M]
CN9003	K1MN11B00065	11P CONNECTOR	[M]
CN9102	K1MN11B00065	11P CONNECTOR	[M]
FP8101	K1MN50B00031	50P CONNECTOR	[M]
FP8201	K1MN06B00080	6P CONNECTOR	[M]
FP8501	K1MN26B00094	26P CONNECTOR	[M]
		COILS	
L2000	G0C3R3JA0027	COIL	[M]
L2003	J0JBC0000015	CHIP INDUCTOR	[M]
L2004	J0JBC0000015	CHIP INDUCTOR	[M]
L2005	J0JBC0000015	CHIP INDUCTOR	[M]
L2006	J0JBC0000015	CHIP INDUCTOR	[M]
L2007	J0JBC0000015	CHIP INDUCTOR	[M]
L2008	J0JBC0000015	CHIP INDUCTOR	[M]
L2009	J0JBC0000015	CHIP INDUCTOR	[M]
L2010	ELESN220JA	COIL	[M]
L2022	J0JBC0000015	CHIP INDUCTOR	[M]
L2023	J0JBC0000015	CHIP INDUCTOR	[M]
L2024	J0JBC0000015	CHIP INDUCTOR	[M]
L2025	J0JBC0000015	CHIP INDUCTOR	[M]
L2026	J0JBC0000015	CHIP INDUCTOR	[M]
L2027	J0JBC0000015	CHIP INDUCTOR	[M]
L2801	G0A101G00022	COIL	[M]PX
L2801	G0ZZ00001930	COIL	[M]PC P
L2802	J0JHC0000045	CHIP INDUCTOR	[M]PC P
L2805	ERJ3GEY0R00V	CHIP JUMPER	[M]PC P
L6101	J0JBC0000019	CHIP INDUCTOR	[M]
L6201	J0JBC0000019	CHIP INDUCTOR	[M]
L6801	J0JBC0000019	CHIP INDUCTOR	[M]
L6903	J0JBC0000041	CHIP INDUCTOR	[M]
L8201	G1C100K00020	CHIP INDUCTOR	[M]
L8202	J0JCC0000079	FILTER	[M]
L8301	G1C100KA0055	CHIP INDUCTOR	[M]
L8302	J0JCC0000079	FILTER	[M]
L8550	G1C100KA0055	CHIP INDUCTOR	[M]
		COMPONENT COMBINATION	
Z6900	B3RAB0000025	REMOTE SENSOR	[M]
		OSCILLATORS	

Ref. No.	Part No.	Part Name & Description	Remarks
X2000	H2D800400009	CRYSTAL OSCILLATOR	[M]
X8621	H0J270500085	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBES	
FL6901	A2BD00000108	FL DISPLAY	[M]
FL8101	F1H0J1050022	CHIP CAPACITOR	[M]
FL8102	F1H0J1050022	CHIP CAPACITOR	[M]
FL8103	F1H0J1050022	CHIP CAPACITOR	[M]
FL8104	F1J1E1040022	CHIP CAPACITOR	[M]
FC9101	RWJ4906082SS	6P FLAT CABLE	[M]
		FUSE PROTECTOR	
FP2000	K5G202AA0002	FUSE PROTECTOR	[M] ⚠
		JACKS	
JK2000	K1FB125B0097	JK SYSTEM CONNECTOR	[M]
JK2001	K2HZ929B0001	JK COMBO	[M]
JK6801	K2HC103A0023	JK SMALL SIGN	[M]
		EARTH TERMINAL	
E2000	K4CZ01000027	TERMINAL	[M]
		CHIP JUMPERS	
W1208	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2000	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2000	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2001	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2001	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2002	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2002	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2003	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2003	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2004	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2004	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2005	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2006	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2007	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2008	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2008	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2009	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2010	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2010	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2011	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2011	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2012	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2013	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2014	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2014	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2015	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2015	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2016	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2016	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2017	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2017	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2018	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2018	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2019	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2019	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2020	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2021	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2022	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2023	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2024	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2024	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2025	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2025	ERJ6GEY0R00V	CHIP RESISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W2026	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2027	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2028	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2029	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2030	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2031	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2032	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2033	ERJ3GEY0R00V	CHIP RESISTOR	[M]PC P
W2034	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2035	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2036	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2038	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2039	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2040	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2045	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2051	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2052	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2053	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2055	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2056	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2057	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2058	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2059	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2060	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2061	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2062	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2064	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2065	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2066	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2067	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2068	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2069	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2070	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2071	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2076	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2081	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2082	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2083	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2084	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2085	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2086	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2088	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2092	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2094	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2095	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2100	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2101	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2119	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2121	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2128	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2171	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2200	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2205	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2206	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2207	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2209	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2210	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2262	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2330	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2331	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W2334	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W2620	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W3000	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W4000	ERJ3GEY0R00V	CHIP RESISTOR	[M]
		RESISTORS	
R2000	ERJ3GEYJ101V	100 1/16W	[M]
R2001	ERJ3GEYJ101V	100 1/16W	[M]
R2002	ERJ3GEYJ221V	220 1/16W	[M]
R2003	ERJ3GEYJ103V	10K 1/16W	[M]
R2004	ERJ3GEYJ103V	10K 1/16W	[M]
R2005	ERJ3GEYJ473V	47K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2006	ERJ3GEYJ104V	100K 1/16W	[M]
R2007	ERJ3GEYJ223V	22K 1/16W	[M]
R2008	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2009	ERJ3GEYJ221V	220 1/16W	[M]
R2010	ERJ3GEYJ221V	220 1/16W	[M]
R2011	ERJ3GEYJ101V	100 1/16W	[M]
R2012	ERJ3GEYJ101V	100 1/16W	[M]
R2013	ERJ3GEYJ101V	100 1/16W	[M]
R2014	ERJ3GEYJ101V	100 1/16W	[M]
R2015	ERJ3GEYJ221V	220 1/16W	[M]
R2016	ERJ3GEYJ221V	220 1/16W	[M]
R2017	ERJ3GEYJ221V	220 1/16W	[M]
R2018	ERJ3GEYJ102V	1K 1/16W	[M]
R2019	ERJ3GEYJ221V	220 1/16W	[M]
R2020	ERJ3GEYJ221V	220 1/16W	[M]
R2021	ERJ3GEYJ221V	220 1/16W	[M]
R2022	ERJ3GEYJ221V	220 1/16W	[M]
R2023	ERJ3GEYJ223V	22K 1/16W	[M]
R2024	ERJ3GEYJ103V	10K 1/16W	[M]
R2025	ERJ3GEYJ221V	220 1/16W	[M]
R2026	ERJ3GEYJ221V	220 1/16W	[M]
R2029	ERJ3GEYJ221V	220 1/16W	[M]
R2031	ERJ3GEYJ221V	220 1/16W	[M]
R2032	ERJ3GEYJ221V	220 1/16W	[M]
R2035	ERJ3GEYJ221V	220 1/16W	[M]
R2037	ERJ3GEYJ221V	220 1/16W	[M]
R2038	ERJ3GEYJ221V	220 1/16W	[M]
R2040	ERJ3GEYJ221V	220 1/16W	[M]
R2041	ERJ3GEYJ221V	220 1/16W	[M]
R2042	ERJ3GEYJ103V	10K 1/16W	[M]PC P
R2046	ERJ3GEYJ221V	220 1/16W	[M]
R2047	ERJ3GEYJ103V	10K 1/16W	[M]
R2048	ERJ3GEYJ221V	220 1/16W	[M]
R2049	ERJ3GEYJ473V	47K 1/16W	[M]
R2050	ERJ3GEYJ221V	220 1/16W	[M]
R2051	ERJ3GEYJ103V	10K 1/16W	[M]
R2052	ERJ3GEYJ563V	56K 1/16W	[M]
R2053	ERJ3GEYJ221V	220 1/16W	[M]
R2054	ERJ3GEYJ473V	47K 1/16W	[M]
R2055	ERJ3GEYJ221V	220 1/16W	[M]
R2056	ERJ3GEYJ221V	220 1/16W	[M]
R2057	ERJ3GEYJ221V	220 1/16W	[M]
R2058	ERJ3GEYJ221V	220 1/16W	[M]
R2060	ERJ3GEYJ221V	220 1/16W	[M]
R2061	ERJ3GEYJ221V	220 1/16W	[M]
R2062	ERJ3GEYJ221V	220 1/16W	[M]
R2064	ERJ3GEYJ221V	220 1/16W	[M]
R2065	ERJ3GEYJ221V	220 1/16W	[M]
R2067	ERJ3GEYJ473V	47K 1/16W	[M]
R2068	ERJ3GEYJ473V	47K 1/16W	[M]
R2069	ERJ3GEYJ563V	56K 1/16W	[M]
R2072	ERJ3GEY0R00V	0 1/16W	[M]
R2074	ERJ3GEYJ103V	10K 1/16W	[M]
R2075	ERJ3GEYJ103V	10K 1/16W	[M]
R2076	ERJ3GEYJ103V	10K 1/16W	[M]
R2077	ERJ3GEYJ821V	820 1/16W	[M]
R2078	ERJ3GEYJ221V	220 1/16W	[M]
R2080	ERJ3GEYJ471V	470 1/16W	[M]
R2081	ERJ3GEYJ223V	22K 1/16W	[M]
R2082	ERJ3GEYJ473V	47K 1/16W	[M]
R2083	ERJ3GEYJ681V	680 1/16W	[M]
R2084	ERJ3GEYJ473V	47K 1/16W	[M]
R2085	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2086	ERJ3GEYJ221V	220 1/16W	[M]
R2088	ERJ3GEYJ221V	220 1/16W	[M]
R2092	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2093	ERJ3GEYJ223V	22K 1/16W	[M]
R2094	ERJ3GEYJ223V	22K 1/16W	[M]
R2095	ERJ3GEYJ121V	120 1/16W	[M]
R2096	ERJ3GEYJ151V	150 1/16W	[M]
R2097	ERJ3GEYJ331V	330 1/16W	[M]
R2098	ERJ3GEYJ331V	330 1/16W	[M]
R2099	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2100	ERJ3GEYJ102V	1K 1/16W	[M]
R2101	ERJ3GEYJ473V	47K 1/16W	[M]
R2106	ERJ3GEYJ102V	1K 1/16W	[M]PX
R2106	ERJ3GEYJ332V	3.3K 1/16W	[M]PC P
R2107	ERJ3GEYJ104V	100K 1/16W	[M]
R2108	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2111	ERJ3GEYJ104V	100K 1/16W	[M]PX
R2111	ERJ3GEYJ333V	33K 1/16W	[M]PC P
R2112	ERJ3GEYJ103V	10K 1/16W	[M]
R2113	ERJ3GEYJ103V	10K 1/16W	[M]
R2114	ERJ3GEYJ103V	10K 1/16W	[M]
R2115	ERJ3GEYJ273V	27K 1/16W	[M]
R2116	ERJ3GEYJ104V	100K 1/16W	[M]
R2117	ERJ3GEYJ104V	100K 1/16W	[M]
R2127	ERJ3GEYJ104V	100K 1/16W	[M]
R2128	ERJ3GEYJ102V	1K 1/16W	[M]
R2129	ERJ3GEYJ123V	12K 1/16W	[M]
R2130	ERJ3GEYJ103V	10K 1/16W	[M]
R2131	ERJ3GEYJ103V	10K 1/16W	[M]
R2132	ERJ3GEYJ103V	10K 1/16W	[M]
R2133	ERJ3GEYJ103V	10K 1/16W	[M]
R2134	ERJ3GEYJ103V	10K 1/16W	[M]
R2135	ERJ3GEYJ103V	10K 1/16W	[M]
R2144	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2144	ERJ3GEYJ332V	3.3K 1/16W	[M]PC P
R2145	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2146	ERJ3GEYJ333V	33K 1/16W	[M]
R2147	ERJ3GEYJ220V	22 1/16W	[M]
R2148	ERJ3GEYJ220V	22 1/16W	[M]
R2149	ERJ3GEYJ220V	22 1/16W	[M]
R2150	ERJ3GEYJ220V	22 1/16W	[M]
R2151	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2152	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2153	ERJ3GEYJ100V	10 1/16W	[M]
R2154	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2155	ERJ3GEYJ104V	100K 1/16W	[M]
R2156	ERJ3GEYJ103V	10K 1/16W	[M]
R2157	ERJ3GEYJ123V	12K 1/16W	[M]
R2160	ERJ3GEYJ103V	10K 1/16W	[M]
R2161	ERJ3GEYJ223V	22K 1/16W	[M]
R2162	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2162	ERJ3GEYJ272V	2.7K 1/16W	[M]PC P
R2163	ERJ3GEYJ102V	1K 1/16W	[M]
R2164	ERJ3GEYJ183V	18K 1/16W	[M]PC P
R2164	ERJ3GEYJ332V	3.3K 1/16W	[M]PX
R2165	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2166	ERJ3GEYJ122V	1.2K 1/16W	[M]
R2167	ERJ3GEYJ123V	12K 1/16W	[M]
R2168	ERJ3GEYJ223V	22K 1/16W	[M]
R2169	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2170	ERJ3GEYJ392V	3.9K 1/16W	[M]PC P
R2170	ERJ3GEYJ562V	5.6K 1/16W	[M]PX
R2172	ERJ3GEY0R00V	0 1/16W	[M]
R2173	ERJ3GEYJ153V	15K 1/16W	[M]PX
R2178	ERJ3GEYJ183V	18K 1/16W	[M]PC P
R2178	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2179	ERJ3GEYJ224V	220K 1/16W	[M]
R2180	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2181	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2183	ERJ3GEYJ184V	180K 1/16W	[M]PC P
R2200	ERJ3GEYJ102V	1K 1/16W	[M]
R2201	ERJ3GEYJ473V	47K 1/16W	[M]
R2206	ERJ3GEYJ102V	1K 1/16W	[M]PX
R2206	ERJ3GEYJ332V	3.3K 1/16W	[M]PC P
R2207	ERJ3GEYJ104V	100K 1/16W	[M]
R2208	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2211	ERJ3GEYJ104V	100K 1/16W	[M]PX
R2211	ERJ3GEYJ333V	33K 1/16W	[M]PC P
R2212	ERJ3GEYJ103V	10K 1/16W	[M]
R2213	ERJ3GEYJ103V	10K 1/16W	[M]
R2214	ERJ3GEYJ103V	10K 1/16W	[M]
R2215	ERJ3GEYJ273V	27K 1/16W	[M]
R2216	ERJ3GEYJ104V	100K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2217	ERJ3GEYJ104V	100K 1/16W	[M]
R2227	ERJ3GEYJ104V	100K 1/16W	[M]
R2228	ERJ3GEYJ102V	1K 1/16W	[M]
R2229	ERJ3GEYJ103V	10K 1/16W	[M]
R2230	ERJ3GEYJ103V	10K 1/16W	[M]
R2231	ERJ3GEYJ103V	10K 1/16W	[M]
R2232	ERJ3GEYJ103V	10K 1/16W	[M]
R2233	ERJ3GEYJ103V	10K 1/16W	[M]
R2234	ERJ3GEYJ103V	10K 1/16W	[M]
R2235	ERJ3GEYJ123V	12K 1/16W	[M]
R2244	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2244	ERJ3GEYJ332V	3.3K 1/16W	[M]PC P
R2245	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2246	ERJ3GEYJ333V	33K 1/16W	[M]
R2247	ERJ3GEYJ220V	22 1/16W	[M]
R2248	ERJ3GEYJ220V	22 1/16W	[M]
R2249	ERJ3GEYJ220V	22 1/16W	[M]
R2250	ERJ3GEYJ220V	22 1/16W	[M]
R2251	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2252	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2253	ERJ3GEYJ100V	10 1/16W	[M]
R2254	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2255	ERJ3GEYJ104V	100K 1/16W	[M]
R2256	ERJ3GEYJ103V	10K 1/16W	[M]
R2257	ERJ3GEYJ123V	12K 1/16W	[M]
R2260	ERJ3GEYJ103V	10K 1/16W	[M]
R2261	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2261	ERJ3GEYJ272V	2.7K 1/16W	[M]PC P
R2262	ERJ3GEYJ223V	22K 1/16W	[M]
R2263	ERJ3GEYJ102V	1K 1/16W	[M]
R2264	ERJ3GEYJ183V	18K 1/16W	[M]PC P
R2264	ERJ3GEYJ332V	3.3K 1/16W	[M]PX
R2265	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2266	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2267	ERJ3GEYJ563V	56K 1/16W	[M]
R2268	ERJ3GEYJ273V	27K 1/16W	[M]
R2269	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2271	ERJ3GEY0R00V	0 1/16W	[M]
R2272	ERJ3GEYJ153V	15K 1/16W	[M]PX
R2278	ERJ3GEYJ183V	18K 1/16W	[M]PC P
R2278	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2279	ERJ3GEYJ224V	220K 1/16W	[M]
R2281	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2283	ERJ3GEYJ184V	180K 1/16W	[M]PC P
R2300	ERJ3GEYJ103V	10K 1/16W	[M]
R2301	ERJ3GEYJ562V	5.6K 1/16W	[M]PX
R2301	ERJ3GEYJ682V	6.8K 1/16W	[M]PC P
R2302	ERJ3GEYJ103V	10K 1/16W	[M]PX
R2302	ERJ3GEYJ223V	22K 1/16W	[M]PC P
R2303	ERJ3GEYJ273V	27K 1/16W	[M]PX
R2303	ERJ3GEYJ303V	30K 1/16W	[M]PC P
R2304	ERJ3GEYJ392V	3.9K 1/16W	[M]PX
R2304	ERJ3GEYJ472V	4.7K 1/16W	[M]PC P
R2305	ERJ3GEYJ102V	1K 1/16W	[M]
R2306	ERJ3GEYJ104V	100K 1/16W	[M]
R2307	ERJ3GEYJ101V	100 1/16W	[M]
R2308	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2309	ERJ3GEYJ563V	56K 1/16W	[M]
R2310	ERJ3GEYJ273V	27K 1/16W	[M]
R2311	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2312	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2323	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2325	ERJ3GEYJ273V	27K 1/16W	[M]
R2328	ERJ3GEYJ102V	1K 1/16W	[M]
R2330	ERJ3GEYJ123V	12K 1/16W	[M]
R2333	ERJ3GEYJ563V	56K 1/16W	[M]
R2340	ERJ3GEYJ222V	2.2K 1/16W	[M]PC P
R2341	ERJ3GEYJ104V	100K 1/16W	[M]PC P
R2344	ERJ3GEYJ222V	2.2K 1/16W	[M]PC P
R2400	ERJ3GEYJ103V	10K 1/16W	[M]
R2401	ERJ3GEYJ562V	5.6K 1/16W	[M]PX
R2401	ERJ3GEYJ682V	6.8K 1/16W	[M]PC P
R2402	ERJ3GEYJ103V	10K 1/16W	[M]PX
R2402	ERJ3GEYJ223V	22K 1/16W	[M]PC P
R2403	ERJ3GEYJ273V	27K 1/16W	[M]PX
R2403	ERJ3GEYJ303V	30K 1/16W	[M]PC P
R2404	ERJ3GEYJ392V	3.9K 1/16W	[M]PX
R2404	ERJ3GEYJ472V	4.7K 1/16W	[M]PC P
R2405	ERJ3GEYJ102V	1K 1/16W	[M]
R2406	ERJ3GEYJ104V	100K 1/16W	[M]
R2407	ERJ3GEYJ101V	100 1/16W	[M]
R2421	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2428	ERJ3GEYJ102V	1K 1/16W	[M]
R2430	ERJ3GEYJ123V	12K 1/16W	[M]
R2432	ERJ3GEYJ152V	1.5K 1/16W	[M]PX
R2440	ERJ3GEYJ222V	2.2K 1/16W	[M]PC P
R2441	ERJ3GEYJ104V	100K 1/16W	[M]PC P
R2444	ERJ3GEYJ222V	2.2K 1/16W	[M]PC P
R2500	ERJ3GEYJ103V	10K 1/16W	[M]
R2501	ERJ3GEYJ333V	33K 1/16W	[M]PC P
R2501	ERJ3GEYJ563V	56K 1/16W	[M]PX
R2502	ERJ3GEYJ472V	4.7K 1/16W	[M]PC P
R2502	ERJ3GEYJ752V	7.5K 1/16W	[M]PX
R2503	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2504	ERJ3GEYJ123V	12K 1/16W	[M]
R2505	ERJ3GEYJ102V	1K 1/16W	[M]
R2506	ERJ3GEYJ333V	33K 1/16W	[M]
R2507	ERJ3GEYJ103V	10K 1/16W	[M]
R2508	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2509	ERJ3GEYJ563V	56K 1/16W	[M]
R2510	ERJ3GEYJ273V	27K 1/16W	[M]
R2511	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2600	ERJ3GEYJ103V	10K 1/16W	[M]PC P
R2600	ERJ3GEYJ123V	12K 1/16W	[M]PX
R2603	ERJ3GEYJ123V	12K 1/16W	[M]PC P
R2603	ERJ3GEYJ203V	20K 1/16W	[M]PX
R2604	ERJ3GEYJ333V	33K 1/16W	[M]
R2605	ERJ3GEYJ122V	1.2K 1/16W	[M]PC P
R2605	ERJ3GEYJ332V	3.3K 1/16W	[M]PX
R2606	ERJ3GEYJ103V	10K 1/16W	[M]
R2607	ERJ3GEYJ203V	20K 1/16W	[M]PX
R2607	ERJ3GEYJ273V	27K 1/16W	[M]PC P
R2608	ERJ3GEYJ124V	120K 1/16W	[M]PC P
R2608	ERJ3GEYJ274V	270K 1/16W	[M]PX
R2609	ERJ3GEYJ563V	56K 1/16W	[M]PC P
R2609	ERJ3GEYJ683V	68K 1/16W	[M]PX
R2610	ERJ3GEYJ222V	2.2K 1/16W	[M]PC P
R2610	ERJ3GEYJ472V	4.7K 1/16W	[M]PX
R2611	ERJ3GEYJ683V	68K 1/16W	[M]
R2612	ERJ3GEYJ103V	10K 1/16W	[M]PC P
R2612	ERJ3GEYJ822V	8.2K 1/16W	[M]PX
R2613	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2614	ERJ3GEYJ102V	1K 1/16W	[M]
R2615	ERJ3GEYJ104V	100K 1/16W	[M]
R2616	ERJ3GEYJ153V	15K 1/16W	[M]
R2617	ERJ3GEYJ333V	33K 1/16W	[M]
R2618	ERJ3GEYJ102V	1K 1/16W	[M]
R2619	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2620	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2621	ERJ3GEYJ563V	56K 1/16W	[M]
R2622	ERJ3GEYJ273V	27K 1/16W	[M]
R2623	ERJ3GEYJ104V	100K 1/16W	[M]
R2624	ERJ3GEYJ104V	100K 1/16W	[M]
R2625	ERJ3GEYJ103V	10K 1/16W	[M]PX
R2625	ERJ3GEYJ562V	5.6K 1/16W	[M]PC P
R2626	ERJ3GEYJ563V	56K 1/16W	[M]
R2627	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2628	ERJ3GEYJ273V	27K 1/16W	[M]
R2629	ERJ3GEYJ104V	100K 1/16W	[M]
R2630	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2631	ERJ3GEYJ102V	1K 1/16W	[M]
R2632	ERJ3GEY0R00V	0 1/16W	[M]PC P
R2632	ERJ3GEYJ102V	1K 1/16W	[M]PX
R2633	ERJ3GEYJ104V	100K 1/16W	[M]
R2634	ERJ3GEYJ103V	10K 1/16W	[M]
R2635	ERJ3GEYJ103V	10K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2636	ERJ3GEYJ103V	10K 1/16W	[M]
R2637	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2638	ERJ3GEYJ332V	3.3K 1/16W	[M]PC P
R2638	ERJ3GEYJ562V	5.6K 1/16W	[M]PX
R2639	ERJ3GEYJ103V	10K 1/16W	[M]
R2640	ERJ3GEYJ123V	12K 1/16W	[M]PX
R2640	ERJ3GEYJ563V	56K 1/16W	[M]PC P
R2641	ERJ3GEYJ333V	33K 1/16W	[M]
R2642	ERJ3GEYJ103V	10K 1/16W	[M]PX
R2642	ERJ3GEYJ393V	39K 1/16W	[M]PC P
R2643	ERJ3GEYJ104V	100K 1/16W	[M]
R2644	ERJ3GEYJ273V	27K 1/16W	[M]
R2645	ERJ3GEYJ563V	56K 1/16W	[M]
R2646	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2647	ERJ3GEYJ104V	100K 1/16W	[M]
R2648	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2649	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2650	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2650	ERJ3GEYJ223V	22K 1/16W	[M]PC P
R2651	ERJ3GEYJ123V	12K 1/16W	[M]PC P
R2651	ERJ3GEYJ473V	47K 1/16W	[M]PX
R2652	ERJ3GEYJ104V	100K 1/16W	[M]PX
R2652	ERJ3GEYJ224V	220K 1/16W	[M]PC P
R2653	ERJ3GEYJ102V	1K 1/16W	[M]
R2654	ERJ3GEYJ104V	100K 1/16W	[M]
R2655	ERJ3GEYJ104V	100K 1/16W	[M]
R2656	ERJ3GEYJ103V	10K 1/16W	[M]
R2657	ERJ3GEYJ152V	1.5K 1/16W	[M]PC P
R2657	ERJ3GEYJ562V	5.6K 1/16W	[M]PX
R2658	ERJ3GEYJ392V	3.9K 1/16W	[M]PC P
R2659	ERJ3GEYJ182V	1.8K 1/16W	[M]PC P
R2660	ERJ3GEYJ152V	1.5K 1/16W	[M]
R2661	ERJ3GEYJ152V	1.5K 1/16W	[M]
R2700	ERJ3GEYJ103V	10K 1/16W	[M]
R2706	ERJ3GEYJ331V	330 1/16W	[M]
R2707	ERJ3GEY0R00V	0 1/16W	[M]PX
R2707	ERJ3GEYJ8R2V	8.2 1/16W	[M]PC P
R2800	ERJ3GEYJ331V	330 1/16W	[M]
R2801	ERJ3GEYJ1R0V	1 1/16W	[M]
R2802	ERJ3GEYJ103V	10K 1/16W	[M]
R2805	ERJ3GEYJ1R0V	1 1/16W	[M]
R2806	ERJ3GEYJ1R0V	1 1/16W	[M]
R2808	ERJ3GEYJ1R0V	1 1/16W	[M]
R2810	ERJ3GEYJ103V	10K 1/16W	[M]
R2811	ERJ3GEYJ103V	10K 1/16W	[M]
R2813	ERJ3GEYJ471V	470 1/16W	[M]
R2815	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2817	ERJ3GEYJ102V	1K 1/16W	[M]
R2819	ERJ3GEYJ471V	470 1/16W	[M]
R2820	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2821	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2822	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2823	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2824	ERJ3GEYJ821V	820 1/16W	[M]
R2825	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2826	ERJ3GEYJ681V	680 1/16W	[M]
R2827	ERJ3GEYJ471V	470 1/16W	[M]
R2828	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2829	ERJ3GEYJ102V	1K 1/16W	[M]
R2830	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2831	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2832	ERJ3GEYJ151V	150 1/16W	[M]
R2833	ERJ3GEYJ102V	1K 1/16W	[M]
R2834	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2835	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2836	ERJ3GEYJ821V	820 1/16W	[M]
R2837	ERJ3GEYJ561V	560 1/16W	[M]
R2838	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2839	ERJ3GEYJ821V	820 1/16W	[M]
R2840	ERJ3GEYJ151V	150 1/16W	[M]
R2841	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2842	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2843	ERJ3GEYJ471V	470 1/16W	[M]
R2846	ERJ3GEYJ182V	1.8K 1/16W	[M]PC P
R2849	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2850	ERJ3GEYJ393V	39K 1/16W	[M]
R2851	ERJ3GEYJ153V	15K 1/16W	[M]
R2855	ERJ3GEYJ102V	1K 1/16W	[M]
R2856	ERJ3GEYJ823V	82K 1/16W	[M]
R2857	ERJ3GEYJ471V	470 1/16W	[M]PC P
R2858	ERJ3GEYJ102V	1K 1/16W	[M]PC P
R2860	ERJ3GEYJ273V	27K 1/16W	[M]PC P
R2861	ERJ3GEYJ563V	56K 1/16W	[M]PC P
R2863	ERJ3GEYJ182V	1.8K 1/16W	[M]PC P
R2864	ERJ3GEYJ681V	680 1/16W	[M]PC P
R2872	ERJ3GEYJ102V	1K 1/16W	[M]
R2873	ERJ3GEYJ273V	27K 1/16W	[M]
R2874	ERJ3GEYJ563V	56K 1/16W	[M]
R2878	ERJ3GEYJ1R0V	1 1/16W	[M]
R2879	ERJ3GEYJ1R0V	1 1/16W	[M]
R2880	ERJ3GEYJ1R0V	1 1/16W	[M]
R2881	ERJ3GEYJ1R0V	1 1/16W	[M]
R2882	ERJ3GEYJ1R0V	1 1/16W	[M]
R2883	ERJ3GEYJ1R0V	1 1/16W	[M]
R2884	ERJ3GEYJ1R0V	1 1/16W	[M]
R2885	ERJ3GEYJ1R0V	1 1/16W	[M]
R2886	D0HB750ZA003	75 3W	[M]
R2887	D0HB750ZA003	75 3W	[M]
R2888	D0HB750ZA003	75 3W	[M]
R2889	D0HB750ZA003	75 3W	[M]
R2890	D0HB750ZA003	75 3W	[M]
R2891	D0HB750ZA003	75 3W	[M]
R2892	ERJ3GEY0R00V	0 1/16W	[M]PX
R2892	ERJ3GEYJ102V	1K 1/16W	[M]PC P
R2893	ERJ3GEYJ223V	22K 1/16W	[M]PC P
R2893	ERJ3GEYJ273V	27K 1/16W	[M]PX
R2894	ERJ3GEYJ224V	220K 1/16W	[M]
R2895	ERJ3GEYJ103V	10K 1/16W	[M]
R2897	ERJ3GEYJ102V	1K 1/16W	[M]
R2898	ERJ3GEYJ222V	2.2K 1/16W	[M]PX
R2898	ERJ3GEYJ331V	330 1/16W	[M]PC P
R2899	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2901	ERJ3GEY0R00V	0 1/16W	[M]PX
R2901	ERJ3GEYJ224V	220K 1/16W	[M]PC P
R2902	ERJ3GEY0R00V	0 1/16W	[M]
R2905	ERJ3GEYJ1R0V	1 1/16W	[M]
R2971	ERJ3GEY0R00V	0 1/16W	[M]
R2972	ERJ3GEY0R00V	0 1/16W	[M]
R2973	ERJ3GEY0R00V	0 1/16W	[M]
R2978	ERJ3GEYJ103V	10K 1/16W	[M]PX
R2978	ERJ3GEYJ123V	12K 1/16W	[M]PC P
R2979	ERJ3GEY0R00V	0 1/16W	[M]PC P
R2982	ERJ3GEYJ103V	10K 1/16W	[M]PC P
R2985	ERJ3GEYJ8R2V	8.2 1/16W	[M]PC P
R2987	ERJ3GEY0R00V	0 1/16W	[M]PC P
R2989	ERJ3GEYJ103V	10K 1/16W	[M]PC P
R2990	ERJ3GEYJ473V	47K 1/16W	[M]
R2991	ERJ3GEY0R00V	0 1/16W	[M]
R6801	ERJ3GEYJ272V	2.7K 1/16W	[M]
R6802	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6803	ERJ3GEYJ122V	1.2K 1/16W	[M]
R6804	ERJ3GEYJ102V	1K 1/16W	[M]
R6805	ERJ3GEYJ102V	1K 1/16W	[M]
R6806	ERJ3GEYJ470V	47 1/16W	[M]
R6807	ERJ3GEYJ223V	22K 1/16W	[M]
R6808	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6809	ERJ3GEYJ223V	22K 1/16W	[M]
R6810	ERJ3GEYJ682V	6.8K 1/16W	[M]
R6811	ERJ3GEYJ470V	47 1/16W	[M]
R6812	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6813	ERJ3GEYJ151V	150 1/16W	[M]
R6814	ERJ3GEYJ103V	10K 1/16W	[M]
R6903	ERJ3GEYJ221V	220 1/16W	[M]
R6904	ERJ3GEYJ221V	220 1/16W	[M]
R6905	ERJ3GEY0R00V	0 1/16W	[M]
R6906	ERJ3GEYJ221V	220 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6907	ERJ3GEYJ221V	220 1/16W	[M]
R6908	ERJ3GEYJ221V	220 1/16W	[M]
R6909	ERJ3GEYJ221V	220 1/16W	[M]
R6910	ERJ3GEYJ221V	220 1/16W	[M]
R6914	ERJ3GEYJ183V	18K 1/16W	[M]
R6915	ERJ3GEYJ102V	1K 1/16W	[M]
R6916	ERJ3GEYJ680V	68 1/16W	[M]
R6917	ERJ3GEYJ102V	1K 1/16W	[M]
R6918	ERJ3GEYJ223V	22K 1/16W	[M]
R6922	ERJ3GEYJ102V	1K 1/16W	[M]
R6923	ERJ3GEYJ102V	1K 1/16W	[M]
R6924	ERJ3GEYJ122V	1.2K 1/16W	[M]
R6925	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6926	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6927	ERJ3GEYJ332V	3.3K 1/16W	[M]
R6928	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6929	ERJ3GEYJ682V	6.8K 1/16W	[M]
R6930	ERJ3GEYJ103V	10K 1/16W	[M]
R6931	ERJ3GEYJ223V	22K 1/16W	[M]
R6934	ERJ3GEYJ470V	47 1/16W	[M]
R6935	ERJ3GEYJ151V	150 1/16W	[M]
R6936	ERJ3GEYJ151V	150 1/16W	[M]
R6938	ERJ3GEYJ272V	2.7K 1/16W	[M]
R6939	ERJ3GEY0R00V	0 1/16W	[M]
R6940	ERJ3GEY0R00V	0 1/16W	[M]
R6941	ERJ3GEYJ221V	220 1/16W	[M]
R6942	ERJ3GEYJ221V	220 1/16W	[M]
R6943	ERJ3GEYJ221V	220 1/16W	[M]
R6944	ERJ3GEYJ221V	220 1/16W	[M]
R6945	ERJ3GEYJ221V	220 1/16W	[M]
R8011	ERJ2GEJ220X	22 2W	[M]
R8021	ERJ2GEJ103X	10K 2W	[M]
R8022	ERJ2GEJ103X	10K 2W	[M]
R8023	ERJ2GEJ473X	47K 2W	[M]
R8041	ERJ2GEJ330X	33 2W	[M]
R8111	ERJ2GEJ223X	22K 2W	[M]
R8112	ERJ2GEJ223X	22K 2W	[M]
R8201	ERJ2GEJ222X	2.2K 2W	[M]
R8231	ERJ2GEJ103X	10K 2W	[M]
R8233	ERJ2GEJ153X	15K 2W	[M]
R8235	ERJ2GEJ822X	8.2K 2W	[M]
R8236	ERJ2GEJ822X	8.2K 2W	[M]
R8241	ERJ2GEJ223X	22K 2W	[M]
R8242	ERJ2GEJ752X	7.5K 2W	[M]
R8243	ERJ2GEJ103X	10K 2W	[M]
R8251	ERJ6GEYJ6R8V	6.8 1/10W	[M]
R8261	ERJ2GEJ823X	82K 2W	[M]
R8262	ERJ2GEJ472X	4.7K 2W	[M]
R8263	ERJ2GEJ823X	82K 2W	[M]
R8264	ERJ2GEJ472X	4.7K 2W	[M]
R8265	ERJ2GE0R00X	0 2W	[M]
R8311	ERJ2RHD242X	2.4K 2W	[M]
R8312	ERJ2RHD102X	1K 2W	[M]
R8313	ERJ2RHD243X	24K 2W	[M]
R8314	ERJ2GE0R00X	0 2W	[M]
R8315	ERJ2GEJ6R8X	6.8 2W	[M]
R8321	ERJ3RBD161V	160 3W	[M]
R8322	ERJ2RKD100X	10 2W	[M]
R8325	ERJ3RBD161V	160 3W	[M]
R8326	ERJ2GE0R00X	0 2W	[M]
R8331	ERJ3RBD161V	160 3W	[M]
R8332	ERJ2RKD100X	10 2W	[M]
R8335	ERJ3RED820V	82 3W	[M]
R8341	ERJ3RED820V	82 3W	[M]
R8401	ERJ2GEJ473X	47K 2W	[M]
R8402	ERJ2GEJ101X	100 2W	[M]
R8404	ERJ2GEJ101X	100 2W	[M]
R8407	ERJ2GEJ101X	100 2W	[M]
R8420	ERJ2GEJ222X	2.2K 2W	[M]
R8421	ERJ2GE0R00X	0 2W	[M]
R8501	ERJ2GE0R00X	0 2W	[M]
R8505	ERJ2GEJ222X	2.2K 2W	[M]
R8506	ERJ2GEJ152X	1.5K 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8550	ERJ2GEJ752X	7.5K 2W	[M]
R8551	ERJ2GE0R00X	0 2W	[M]
R8552	ERJ2GEJ102X	1K 2W	[M]
R8553	ERJ2GEJ102X	1K 2W	[M]
R8554	ERJ2GEJ680X	68 2W	[M]
R8555	ERJ2GEJ2R2X	2.2 2W	[M]
R8556	ERJ3GEYJ560V	56 1/16W	[M]
R8557	ERJ3GEYJ510V	51 1/16W	[M]
R8558	ERJ2GEJ473X	47K 2W	[M]
R8559	ERJ2GEJ153X	15K 2W	[M]
R8560	ERJ2GEJ102X	1K 2W	[M]
R8561	ERJ2GE0R00X	0 2W	[M]
R8562	ERJ2GEJ102X	1K 2W	[M]
R8563	ERJ2GEJ102X	1K 2W	[M]
R8564	ERJ2GEJ220X	22 2W	[M]
R8565	ERJ2GEJ2R2X	2.2 2W	[M]
R8566	ERJ3GEYJ560V	56 1/16W	[M]
R8567	ERJ3GEYJ510V	51 1/16W	[M]
R8568	ERJ2GEJ473X	47K 2W	[M]
R8569	ERJ2GEJ123X	12K 2W	[M]
R8570	ERJ2GEJ104X	100K 2W	[M]
R8601	ERJ2GEJ102X	1K 2W	[M]
R8606	ERJ2GEJ104X	100K 2W	[M]
R8607	ERJ2GEJ103X	10K 2W	[M]
R8611	ERJ2GEJ101X	100 2W	[M]
R8621	ERJ2GEJ105X	1M 2W	[M]
R8622	ERJ2RHD102X	1K 2W	[M]
K8031	ERJ2GE0R00X	CHIP JUMPER	[M]
K8106	ERJ3GEY0R00V	CHIP JUMPER	[M]
K8421	ERJ3GEY0R00V	CHIP JUMPER	[M]
RX8011	D1H88204A024	CHIP RESISTOR	[M]
RX8012	D1H88204A024	CHIP RESISTOR	[M]
RX8013	D1H88204A024	CHIP RESISTOR	[M]
RX8014	D1H88204A024	CHIP RESISTOR	[M]
RX8015	D1H422020001	CHIP RESISTOR	[M]
RX8016	D1H88204A024	CHIP RESISTOR	[M]
RX8017	D1H88204A024	CHIP RESISTOR	[M]
RX8018	D1H88204A024	CHIP RESISTOR	[M]
RX8021	D1H410320002	CHIP RESISTOR	[M]
RX8031	D1H447220001	CHIP RESISTOR	[M]
RX8032	D1H447220001	CHIP RESISTOR	[M]
RX8401	D1H410120001	CHIP RESISTOR	[M]
RX8402	D1H410120001	CHIP RESISTOR	[M]
RX8501	D1H456020001	CHIP RESISTOR	[M]
RX8502	D1H85604A024	CHIP RESISTOR	[M]
RX8503	D1H456020001	CHIP RESISTOR	[M]
RX8504	D1H456020001	CHIP RESISTOR	[M]
RX8611	D1H447220001	CHIP RESISTOR	[M]
		CAPACITORS	
C2003	ECEA1AKA220B	22 10V	[M]
C2004	ECJ1VB1E103K	0.01 25V	[M]
C2005	ECA1AM102B	1000 10V	[M]
C2006	ECEA1HKA2R2B	2.2 50V	[M]
C2007	ECJ1VB1C104K	0.1 16V	[M]
C2008	ECJ1VB1C104K	0.1 16V	[M]
C2009	ECEA0JKA101B	100 6.3V	[M]
C2019	ECJ1VB1H331K	330P 50V	[M]
C2020	ECJ1VB1H331K	330P 50V	[M]
C2021	ECJ1VB1H331K	330P 50V	[M]
C2022	ECJ1VB1H223K	0.022 50V	[M]
C2023	ECJ1VB1C104K	0.1 16V	[M]
C2024	ECEA1CKA470B	47 16V	[M]
C2028	ECJ1VB1A105K	1 10V	[M]
C2029	ECJ1VB1A105K	1 10V	[M]
C2032	ECJ1VB1C104K	0.1 16V	[M]
C2033	ECJ1VB1H103K	0.01 50V	[M]
C2034	ECJ1VB1C104K	0.1 16V	[M]
C2035	ECJ1VB1H103K	0.01 50V	[M]
C2036	ECEA1HKA220I	22 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2037	ECJ1VB1H103K	0.01 50V	[M]
C2038	ECEA1AKA221I	220 10V	[M]
C2039	ECJ1VB1H103K	0.01 50V	[M]
C2040	ECA0JM102B	1000 6.3V	[M]
C2042	ECA0JM102B	1000 6.3V	[M]
C2044	ECA0JM102B	1000 6.3V	[M]
C2046	ECA0JM331I	330 6.3V	[M]
C2047	ECA0JM331I	330 6.3V	[M]
C2049	ECJ1VC1H101K	100P 50V	[M]
C2050	ECJ1VC1H101K	100P 50V	[M]
C2051	ECJ1VC1H101K	100P 50V	[M]
C2052	ECJ1VC1H101K	100P 50V	[M]
C2053	ECJ1VB1E103K	0.01 25V	[M]
C2090	ECJ1VB1E103K	0.01 25V	[M]
C2099	ECEA1HKN4R7B	4.7 50V	[M]
C2100	ECJ1VB1C393K	0.039 16V	[M]PC P
C2101	ECJ1VB1H332K	3300P 50V	[M]
C2102	ECJ1VB1E183K	0.018 25V	[M]
C2106	ECEA1HKA4R7I	4.7 50V	[M]
C2107	ECEA1HKA3R3I	3.3 50V	[M]
C2120	ECJ1VB1A105K	1 10V	[M]
C2121	ECJ1VC1H151K	150P 50V	[M]
C2122	ECJ1VB1H391K	390P 50V	[M]
C2123	ECEA1HKA100I	10 50V	[M]
C2124	ECJ1VC1H101K	100P 50V	[M]
C2125	ECJ1VC1H330J	33P 50V	[M]
C2126	ECJ1VB1E103K	0.01 25V	[M]
C2127	ECEA1HKA4R7I	4.7 50V	[M]
C2128	ECEA1CKA100B	10 16V	[M]PX
C2128	ECJ1VB1A225K	2.2 10V	[M]PC P
C2130	ECJ1VB1A154K	0.15 10V	[M]
C2131	ECJ1VB1H332K	3300P 50V	[M]
C2136	ECJ1VB1H221K	220P 50V	[M]
C2137	ECJ1VB1H104K	0.1 50V	[M]
C2138	ECJ1VC1H221J	220P 50V	[M]
C2139	ECJ1VC1H101K	100P 50V	[M]
C2140	ECJ1VB1H681K	680P 50V	[M]
C2141	ECJ1VC1H101K	100P 50V	[M]
C2149	ECJ1VB1A105K	1 10V	[M]
C2150	ECEA1HKA010I	1 50V	[M]
C2151	ECJ1VC1H101K	100P 50V	[M]
C2152	ECJ1VC1H470J	47P 50V	[M]
C2153	ECA1CM101B	100 16V	[M]
C2154	ECJ1VB1E103K	0.01 25V	[M]
C2155	ECJ1VB1H102K	1000P 50V	[M]
C2156	ECJ1VB1A105K	1 10V	[M]
C2157	ECEA1HKA100B	10 50V	[M]
C2160	ECJ1VB1H471K	470P 50V	[M]
C2161	ECJ1VB1C104K	0.1 16V	[M]
C2162	ECJ1VB1A154K	0.15 10V	[M]PC P
C2162	ECJ1VB1C333K	0.033 16V	[M]PX
C2163	ECEA1HKA3R3B	3.3 50V	[M]
C2164	ECJ1VB1H272K	2700P 50V	[M]
C2165	ECJ1VB1A124K	0.12 10V	[M]
C2166	ECJ1VB1A124K	0.12 10V	[M]
C2167	ECEA1HKA4R7I	4.7 50V	[M]
C2168	ECEA1HKA3R3I	3.3 50V	[M]
C2169	ECJ1VB1H471K	470P 50V	[M]
C2170	ECEA1HKA4R7I	4.7 50V	[M]
C2175	ECJ1VB1A124K	0.12 10V	[M]PC P
C2175	ECUV1C224KBV	0.22 16V	[M]PX
C2176	ECJ1VB1H471K	470P 50V	[M]PC P
C2177	ECJ1VB1H471K	470P 50V	[M]PC P
C2178	ECJ1VB1H331K	330P 50V	[M]PC P
C2179	EEUFM1A681B	680P 10V	[M]PC P
C2200	ECJ1VB1C393K	0.039 16V	[M]PC P
C2201	ECJ1VB1H332K	3300P 50V	[M]
C2202	ECJ1VB1E183K	0.018 25V	[M]
C2206	ECEA1HKA4R7I	4.7 50V	[M]
C2207	ECEA1HKA3R3I	3.3 50V	[M]
C2210	ECJ1VB1H223K	0.022 50V	[M]
C2211	ECJ1VB1C823K	0.082 16V	[M]
C2218	ECJ1VB1A105K	1 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2219	ECJ1VB1A124K	0.12 10V	[M]
C2220	ECJ1VB1A124K	0.12 10V	[M]
C2221	ECJ1VC1H151K	150P 50V	[M]
C2222	ECJ1VB1H391K	390P 50V	[M]
C2223	ECEA1HKA100I	10 50V	[M]
C2224	ECJ1VC1H101K	100P 50V	[M]
C2225	ECJ1VC1H330J	33P 50V	[M]
C2226	ECJ1VB1E103K	0.01 25V	[M]
C2227	ECEA1HKA4R7I	4.7 50V	[M]
C2228	ECJ1VB1A154K	0.15 10V	[M]
C2229	ECEA1CKA100B	10 16V	[M]PX
C2229	ECJ1VB1A225K	22 10V	[M]PC P
C2232	ECJ1VB1H332K	3300P 50V	[M]
C2236	ECJ1VC1H221J	220P 50V	[M]
C2237	ECJ1VB1H104K	0.1 50V	[M]
C2238	ECJ1VC1H221J	220P 50V	[M]
C2239	ECJ1VC1H101K	100P 50V	[M]
C2240	ECJ1VB1H681K	680P 50V	[M]
C2241	ECJ1VC1H101K	100P 50V	[M]
C2249	ECJ1VB1A105K	1 10V	[M]
C2250	ECEA1HKA010I	1 50V	[M]
C2251	ECJ1VC1H101K	100P 50V	[M]
C2252	ECJ1VC1H470J	47P 50V	[M]
C2253	ECA1CM101B	100 16V	[M]
C2254	ECJ1VB1E103K	0.01 25V	[M]
C2255	ECJ1VB1H102K	1000P 50V	[M]
C2256	ECJ1VB1A105K	1 10V	[M]
C2257	ECEA1HKA100B	10 50V	[M]
C2260	ECJ1VB1H471K	470P 50V	[M]
C2261	ECJ1VB1C104K	0.1 16V	[M]
C2262	ECJ1VB1A154K	0.15 10V	[M]PC P
C2262	ECJ1VB1C333K	0.033 16V	[M]PX
C2263	ECEA1HKA3R3I	3.3 50V	[M]
C2264	ECEA1HKA100I	10 50V	[M]
C2265	ECJ1VB1H272K	2700P 50V	[M]
C2266	ECEA1HKA4R7I	4.7 50V	[M]
C2267	ECEA1HKA4R7I	4.7 50V	[M]
C2270	ECJ1VB1A124K	0.12 10V	[M]PC P
C2270	ECUV1C224KBV	0.22 16V	[M]PX
C2278	ECJ1VB1H331K	330P 50V	[M]PC P
C2300	ECEA1CKA100B	10 16V	[M]
C2301	ECJ1VB1H471K	470P 50V	[M]
C2302	ECJ1VB1A105K	1 10V	[M]
C2303	ECEA1HKA3R3B	3.3 50V	[M]
C2310	ECJ1VB1H223K	0.022 50V	[M]
C2312	ECEA1HKA4R7I	4.7 50V	[M]
C2320	ECJ1VB1A105K	1 10V	[M]PX
C2320	ECJ1VB1A124K	0.12 10V	[M]PC P
C2400	ECEA1HKA100B	10 50V	[M]
C2401	F1K1A4750013	4.7 10V	[M]
C2402	ECJ1VB1H471K	470P 50V	[M]
C2403	ECJ1VB1A105K	1 10V	[M]
C2404	ECEA1HKA3R3B	3.3 50V	[M]
C2405	F1K1A4750013	4.7 10V	[M]
C2500	ECEA1CKA100B	10 16V	[M]
C2501	F1K1A4750013	4.7 10V	[M]
C2502	ECEA1HKA010I	1 50V	[M]
C2503	ECJ1VB1C223K	0.022 16V	[M]PX
C2503	ECJ1VB1C333K	0.033 16V	[M]PC P
C2504	ECJ1VB1C683K	0.068 16V	[M]
C2505	ECEA1HKA010I	1 50V	[M]
C2506	ECJ1VB1E103K	0.01 25V	[M]
C2507	ECJ1VC1H101K	100P 50V	[M]
C2508	ECEA1HKA4R7I	4.7 50V	[M]
C2511	ECEA1HKA010I	1 50V	[M]PX
C2511	ECJ1VB1A105K	1 10V	[M]PC P
C2521	ECEA1HKA010I	1 50V	[M]PX
C2521	ECJ1VB1A105K	1 10V	[M]PC P
C2522	ECJ1VB1A105K	1 10V	[M]
C2600	ECJ1VB1A105K	1 10V	[M]
C2602	ECEA1HKA100I	10 50V	[M]
C2603	ECEA1HKA100I	10 50V	[M]
C2604	ECJ1VB1H222K	2200P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2605	ECJ1VB0J474K	0.47 6.3V	[M]PX
C2605	F1H1A334A025	0.33 10V	[M]PC P
C2606	ECJ1VB1A154K	0.15 10V	[M]PX
C2606	ECUV1C224KBV	0.22 16V	[M]PC P
C2607	ECJ1VB1A154K	0.15 10V	[M]PX
C2607	ECUV1C224KBV	0.22 16V	[M]PC P
C2608	ECJ1VB1C823K	0.082 16V	[M]PX
C2608	ECJ1VB1H104K	0.1 50V	[M]PC P
C2609	ECJ1VB1H562K	5600P 50V	[M]PC P
C2609	ECJ1VB1H822K	8200P 50V	[M]PX
C2610	ECEA1HKA100B	10 50V	[M]
C2611	ECEA1HKA4R7I	4.7 50V	[M]
C2612	ECEA1HKA4R7I	4.7 50V	[M]
C2613	ECJ1VB1E103K	0.01 25V	[M]
C2615	ECJ1VB1H562K	5600P 50V	[M]
C2616	ECEA1CKA100I	10 16V	[M]
C2617	ECEA1HKA4R7I	4.7 50V	[M]
C2618	ECJ1VB1A124K	0.12 10V	[M]PC P
C2618	ECJ1VB1A154K	0.15 10V	[M]PX
C2619	ECJ1VB0J474K	0.47 6.3V	[M]
C2620	ECJ1VB1C683K	0.068 16V	[M]PC P
C2620	ECJ1VB1C823K	0.082 16V	[M]PX
C2621	ECJ1VC1H221J	220P 50V	[M]
C2623	ECJ1VB1C563K	0.056 16V	[M]PC P
C2627	ECEA1HKA100I	10 50V	[M]
C2628	ECEA1HKA100I	10 50V	[M]
C2629	ECEA1HKA4R7I	4.7 50V	[M]
C2631	ECEA1HKA4R7I	4.7 50V	[M]
C2632	ECJ1VC1H101K	100P 50V	[M]
C2633	ECJ1VB1H223K	0.022 50V	[M]PC P
C2633	ECJ1VB1H331K	330P 50V	[M]PX
C2634	ECEA1HKA4R7I	4.7 50V	[M]
C2635	ECJ1VC1H221J	220P 50V	[M]
C2636	ECEA1HKAR47B	0.47 50V	[M]
C2801	ECJ1VC1H101K	100P 50V	[M]
C2802	ECA1EM221B	220 25V	[M]
C2803	ECJ1VC1H101K	100P 50V	[M]
C2804	ECJ1VC1H101K	100P 50V	[M]
C2805	ECJ1VC1H101K	100P 50V	[M]
C2806	ECA0JM102B	1000 6.3V	[M]PX
C2806	EEUFC0J821B	820P 6.3V	[M]PC P
C2807	ECJ1VC1H101K	100P 50V	[M]
C2808	ECJ1VC1H101K	100P 50V	[M]
C2809	ECEA1EKA330B	33 25V	[M]
C2810	ECJ1VC1H101K	100P 50V	[M]
C2811	ECJ1VB1H103K	0.01 50V	[M]
C2812	ECJ1VC1H101K	100P 50V	[M]
C2814	ECJ1VC1H101K	100P 50V	[M]
C2815	ECJ1VB1H103K	0.01 50V	[M]
C2816	ECJ1VB1H221K	220P 50V	[M]
C2817	ECEA0JKA221B	220 6.3V	[M]PC P
C2817	ECEA0JKA470B	47 6.3V	[M]PX
C2818	ECJ1VB1H221K	220P 50V	[M]
C2819	ECJ1VB1A105K	1 10V	[M]
C2820	ECJ1VB1E103K	0.01 25V	[M]
C2821	ECEA0JKA470B	47 6.3V	[M]
C2822	ECJ1VB1E103K	0.01 25V	[M]
C2823	ECJ1VB1A105K	1 10V	[M]
C2824	ECJ1VB1A105K	1 10V	[M]
C2825	ECEA0JKA221B	220 6.3V	[M]PX
C2825	ECEA0JKA331B	330 6.3V	[M]PC P
C2826	ECQB1H104JF4	0.1 50V	[M]PC P
C2826	ECQE1104KF3	0.1 100V	[M]PX
C2827	ECEA1HKA100I	10 50V	[M]
C2828	ECA1JM101B	100 63V	[M]
C2829	ECA1HM101B	100 50V	[M]
C2830	F2A1E1020065	1000P 25V	[M]
C2831	ECEA1CKA470B	47 16V	[M]
C2832	F2A1E1020065	1000P 25V	[M]
C2833	ECEA1CKA470B	47 16V	[M]
C2834	ECA1HM101B	100 50V	[M]
C2835	ECA1JM101B	100 63V	[M]
C2836	ECA1CM101B	100 16V	[M]

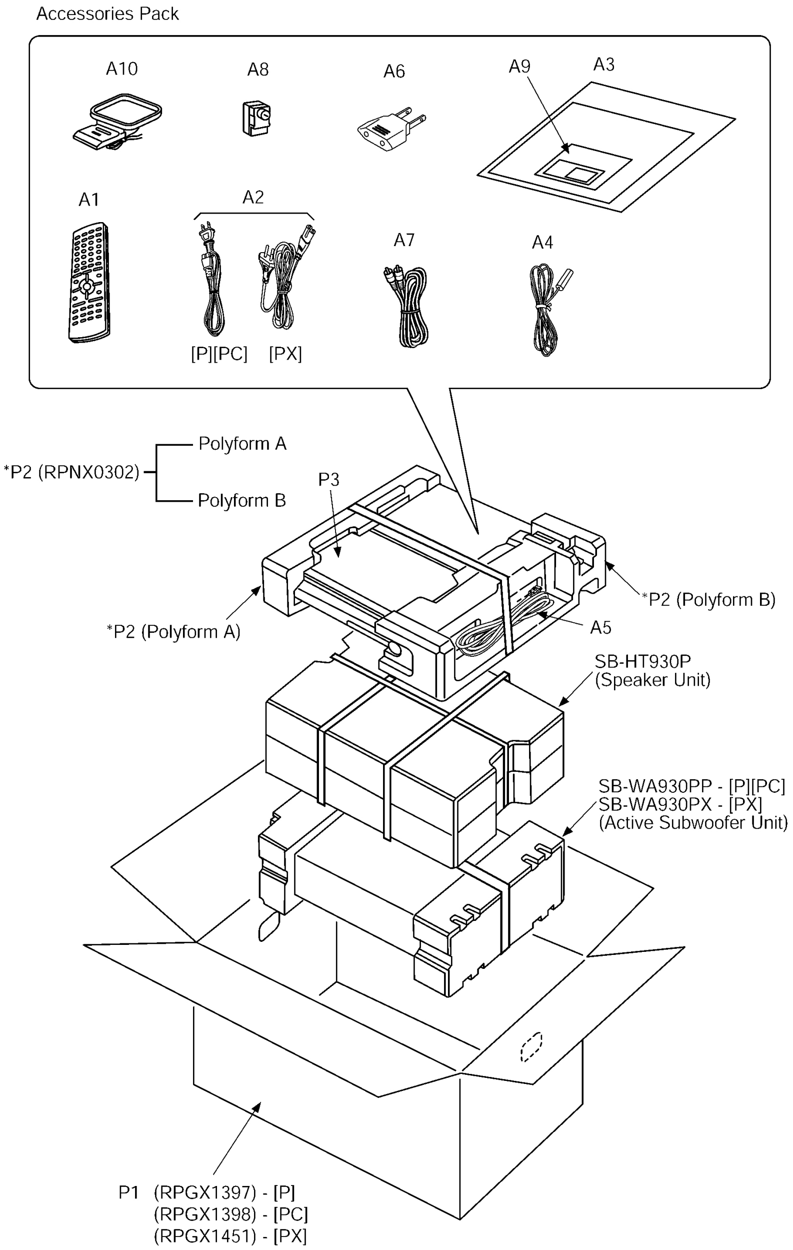
Ref. No.	Part No.	Part Name & Description	Remarks
C2837	ECJ1VB1H103K	0.01 50V	[M]
C2838	ECJ1VB1H103K	0.01 50V	[M]
C2839	ECEA1AKA330B	33 10V	[M]
C2840	ECJ1VB1C104K	0.1 16V	[M]
C2841	ECA1EM472B	4700 25V	[M]
C2842	ECJ1VB1H103K	0.01 50V	[M]
C2843	ECEA1EKA330B	33 25V	[M]
C2844	ECJ1VB1H103K	0.01 50V	[M]
C2845	ECJ1VB1C104K	0.1 16V	[M]
C2846	ECA1EM101B	100 25V	[M]
C2847	ECJ1VB1H103K	0.01 50V	[M]
C2848	ECA1EM101B	100 25V	[M]
C2851	ECJ1VB1H103K	0.01 50V	[M]PC P
C2853	ECEA1HKN4R7B	4.7 50V	[M]
C2856	ECA1HM101B	100 50V	[M]
C2857	ECEA1CKA100I	10 16V	[M]PX
C2857	ECJ1VB1A225K	2.2 10V	[M]PC P
C2858	ECEA1CKA100I	10 16V	[M]PX
C2858	ECJ1VB1A225K	2.2 10V	[M]PC P
C2859	ECJ1VB1E103K	0.01 25V	[M]
C2860	EEUFC0J821B	820P 6.3V	[M]PC P
C2861	ECA1EM101B	100 25V	[M]PC P
C2862	ECJ1VB1C104K	0.1 16V	[M]PC P
C2863	ECEA1CKA221B	220 16V	[M]PC P
C2865	ECEA1HKA4R7I	4.7 50V	[M]PC P
C2866	ECJ1VB1A105K	1 10V	[M]PC P
C6101	ECJ1VB1H473K	0.047 50V	[M]
C6201	ECJ1VB1H473K	0.047 50V	[M]
C6801	ECJ1VB1H102K	1000P 50V	[M]
C6805	ECJ1VC1H101K	100P 50V	[M]
C6806	ECJ1VC1H101K	100P 50V	[M]
C6903	ECEA1HKA220B	22 50V	[M]
C6904	ECJ1VB1H102K	1000P 50V	[M]
C6905	ECEA1HKA220B	22 50V	[M]
C6906	ECJ1VC1H390K	39P 50V	[M]
C6909	ECJ1VB1H103K	0.01 50V	[M]
C6910	ECEA0JKS101B	100 6.3V	[M]
C6911	ECJ1VB1H103K	0.01 50V	[M]
C6912	ECJ1VB1C104K	0.1 16V	[M]
C6913	ECEA1HKS3R3B	3.3 50V	[M]
C6914	ECUV1C224KBV	0.22 16V	[M]
C6915	ECJ1VC1H101K	100P 50V	[M]
C6916	ECJ1VC1H101K	100P 50V	[M]
C6917	ECJ1VC1H101K	100P 50V	[M]
C6918	ECEA1AKA470B	47 10V	[M]
C6919	ECJ1VB1H103K	0.01 50V	[M]
C8001	F2G0J101A066	100P 6.3V	[M]
C8002	F2G0G331A012	330P 4V	[M]
C8003	ECJ0EB1E222K	2200P 25V	[M]
C8004	ECJ0EF1C104Z	0.1 16V	[M]
C8005	ECJ0EF1C104Z	0.1 16V	[M]
C8006	ECJ0EF1C104Z	0.1 16V	[M]
C8007	ECJ0EF1C104Z	0.1 16V	[M]
C8008	ECJ0EF1C104Z	0.1 16V	[M]
C8009	ECJ0EF1C104Z	0.1 16V	[M]
C8010	ECJ0EF1C104Z	0.1 16V	[M]
C8011	ECJ1VB0J105K	1 6.3V	[M]
C8012	ECJ0EF1C104Z	0.1 16V	[M]
C8013	ECJ0EF1C104Z	0.1 16V	[M]
C8014	ECJ0EF1C104Z	0.1 16V	[M]
C8015	ECJ1VB0J105K	1 6.3V	[M]
C8016	ECJ1VB0J105K	1 6.3V	[M]
C8017	ECJ0EF1C104Z	0.1 16V	[M]
C8018	ECJ0EF1C104Z	0.1 16V	[M]
C8019	ECJ1VB0J105K	1 6.3V	[M]
C8020	ECJ0EF1C104Z	0.1 16V	[M]
C8021	ECJ0EF1C104Z	0.1 16V	[M]
C8022	ECJ0EF1C104Z	0.1 16V	[M]
C8023	ECJ1VB0J105K	1 6.3V	[M]
C8024	ECJ1VB0J105K	1 6.3V	[M]
C8025	ECJ0EF1C104Z	0.1 16V	[M]
C8026	ECJ0EB1E222K	2200P 25V	[M]
C8027	ECJ0EF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8028	ECJ1VB0J105K	1 6.3V	[M]
C8031	ECJ0EF1C104Z	0.1 16V	[M]
C8051	ECJ1VB0J105K	1 6.3V	[M]
C8052	ECJ0EF1C104Z	0.1 16V	[M]
C8053	ECJ0EC1H221J	220P 50V	[M]
C8054	ECJ1VB0J105K	1 6.3V	[M]
C8055	ECJ1VB0J105K	1 6.3V	[M]
C8056	ECJ0EF1C104Z	0.1 16V	[M]
C8057	ECJ0EB1E222K	2200P 25V	[M]
C8111	ECJ0EB1A104K	0.1 10V	[M]
C8112	ECJ1VB0J105K	1 6.3V	[M]
C8113	ECJ0EB1E471K	470P 25V	[M]
C8201	F2H0J101A003	100P 6.3V	[M]
C8202	F2G0J101A066	100P 6.3V	[M]
C8203	ECJ0EF1C104Z	0.1 16V	[M]
C8204	ECJ0EF1C104Z	0.1 16V	[M]
C8205	ECJ0EF1C104Z	0.1 16V	[M]
C8206	ECJ1VB0J105K	1 6.3V	[M]
C8207	ECJ1VF1C104Z	0.1 16V	[M]
C8208	ECJ0EF1C104Z	0.1 16V	[M]
C8211	ECJ0EB1A333K	0.033 10V	[M]
C8212	ECJ0EF1C104Z	0.1 16V	[M]
C8213	ECJ0EF1C104Z	0.1 16V	[M]
C8214	ECJ0EF1C104Z	0.1 16V	[M]
C8215	ECJ0EB1E562K	5600P 25V	[M]
C8216	ECJ0EB1C183K	0.018 16V	[M]
C8217	ECJ1VB0J105K	1 6.3V	[M]
C8218	ECJ1VB0J105K	1 6.3V	[M]
C8221	ECJ0EB1A104K	0.1 10V	[M]
C8222	ECJ0EB1A104K	0.1 10V	[M]
C8223	ECJ0EB1A104K	0.1 10V	[M]
C8224	ECJ0EB1A104K	0.1 10V	[M]
C8225	ECJ0EF1C104Z	0.1 16V	[M]
C8226	ECJ0EF1C104Z	0.1 16V	[M]
C8227	ECJ0EF1C104Z	0.1 16V	[M]
C8228	ECJ1VB0J105K	1 6.3V	[M]
C8229	ECJ1VB0J105K	1 6.3V	[M]
C8232	ECJ1VF1C104Z	0.1 16V	[M]
C8233	ECJ0EB1E472K	4700P 25V	[M]
C8234	ECJ0EF1C104Z	0.1 16V	[M]
C8235	ECJ0EB1H102K	1000P 50V	[M]
C8236	ECJ0EB1H102K	1000P 50V	[M]
C8237	ECJ0EB1H102K	1000P 50V	[M]
C8238	ECJ0EB1H821K	820P 50V	[M]
C8241	ECJ0EB1A104K	0.1 10V	[M]
C8242	ECJ0EB1A104K	0.1 10V	[M]
C8251	F2G0J221A065	220P 6.3V	[M]
C8252	F2G1C470A076	47P 16V	[M]
C8253	F2H1C220A003	22P 16V	[M]
C8254	ECJ0EF1C104Z	0.1 16V	[M]
C8255	ECJ0EF1C104Z	0.1 16V	[M]
C8256	ECJ0EF1C104Z	0.1 16V	[M]
C8257	ECJ0EF1C104Z	0.1 16V	[M]
C8261	ECJ0EF1C104Z	0.1 16V	[M]
C8262	ECJ0EF1C104Z	0.1 16V	[M]
C8301	F2H0J2210006	220P 6.3V	[M]
C8302	F2H0J330A003	33P 6.3V	[M]
C8303	ECJ0EF1C104Z	0.1 16V	[M]
C8304	ECJ1VB0J105K	1 6.3V	[M]
C8307	ECJ0EF1C104Z	0.1 16V	[M]
C8308	ECJ0EC1H150J	15P 50V	[M]
C8311	ECJ0EF1C104Z	0.1 16V	[M]
C8312	ECJ1VB0J105K	1 6.3V	[M]
C8421	F2G0J101A083	100P 6.3V	[M]
C8422	ECJ0EF1C104Z	0.1 16V	[M]
C8423	F2G0J330A083	33P 6.3V	[M]
C8424	ECJ0EF1C104Z	0.1 16V	[M]
C8426	ECJ0EF1C104Z	0.1 16V	[M]
C8427	ECJ0EF1C104Z	0.1 16V	[M]
C8428	ECJ0EF1C104Z	0.1 16V	[M]
C8501	ECJ3YB1A106M	10 10V	[M]
C8502	ECJ0EF1C104Z	0.1 16V	[M]
C8503	ECJ0EF1C104Z	0.1 16V	[M]
C8504	ECJ0EF1C104Z	0.1 16V	[M]
C8505	ECJ0EC1H221J	220P 50V	[M]
C8506	ECJ0EC1H101J	100P 50V	[M]
C8550	F2H0J330A003	33P 6.3V	[M]
C8551	ECJ0EF1C104Z	0.1 16V	[M]
C8552	F2G1C100A072	10P 16V	[M]
C8553	F2H0J470A003	47P 6.3V	[M]
C8554	ECJ1VB0J105K	1 6.3V	[M]
C8561	ECJ0EF1C104Z	0.1 16V	[M]
C8562	F2G1C100A072	10P 16V	[M]
C8563	F2H0J470A003	47P 6.3V	[M]
C8564	ECJ1VB0J105K	1 6.3V	[M]
C8601	ECJ0EF1C104Z	0.1 16V	[M]
C8606	ECJ0EF1C104Z	0.1 16V	[M]
C8607	ECJ0EB0J224K	0.22 6.3V	[M]
C8611	ECJ0EF1C104Z	0.1 16V	[M]
C8621	ECJ0EC1H120J	12P 50V	[M]
C8622	ECJ0EC1H120J	12P 50V	[M]
C8651	ECJ0EF1C104Z	0.1 16V	[M]
C8652	ECJ0EF1C104Z	0.1 16V	[M]
C8691	ECJ0EF1C104Z	0.1 16V	[M]
C8695	ECJ0EF1C104Z	0.1 16V	[M]

27.3. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX1397	PACKING CASE	[M]P
P1	RPGX1398	PACKING CASE	[M]PC
P1	RPGX1451	PACKING CASE	[M]PX
P2	RPNX0302	POLYFOAM	[M]
P3	RPFX0058	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	EUR7722XD0	REMOTE CONTROLLER	[M]
A1-1	UR76EC3103A	R/C BATTERY COVER	[M]
A2	K2CB2CB00018	AC CORD	[M]PC P ⚠
A2	K2CQ2CA00002	AC CORD	[M]PX ⚠
A3	RQT7972-P	OI BOOK (EN)	[M]
A3	RQT7973-C	OI BOOK (CF)	[M]PC
A4	RSA0007-L	FM ANTENNA	[M]
A5	K1HA25HA0001	SYSTEM CABLE	[M]
A6	K2DA42E00001	AC PLUG ADAPTOR	[M]PX
A7	K2KA2BA00001	VIDEO CABLE	[M]
A8	RHD30090-1	SCREW	[M]
A9	RQCA1029	SPEAKER LABEL	[M]
A10	N1DAAAA00001	LINEAR ANTENNA	[M]

27.4. Packaging


Accessories Pack
A10
A8
A6
A9
A3
A1
A2
[P][PC]
[PX]
A7
A4
*P2 (RPNX0302)
Polyform A
Polyform B
P3
*P2 (Polyform B)
*P2 (Polyform A)
A5
SB-HT930P
(Speaker Unit)
SB-WA930PP - [P][PC]
SB-WA930PX - [PX]
(Active Subwoofer Unit)
P1 (RPGX1397) - [P]
(RPGX1398) - [PC]
(RPGX1451) - [PX]